



Dunham Massey, Trafford, Greater Manchester

Community Archaeological Excavation Report



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SUMMARY

The South Manchester Archaeological Research Team (SMART) and the National Trust planned to conduct a series of community archaeological training events supported by the Heritage Lottery Fund (HLF), based in and around Dunham Massey, a National Trust property three miles south-west of Altrincham, in the Metropolitan Borough of Trafford, Greater Manchester (SJ 7339 8733).

The Dunham Massey estate covers 3135 acres of prime agricultural land and includes 21 working farms and 111 cottages. At the heart of the estate lies Dunham Hall, surrounded by its garden and a 230-acre deer park known as the Old Park, laid out in the early eighteenth century. The origins of the Dunham Massey estate can be traced back to the late early medieval period when it, along with the manors of Little Bollington and Bowdon, were held by one Alweard. Following the Norman Conquest, Dunham passed to Hamo de Mascy, whose family held the enormous Barony of Dunham Massey until c1342. Ownership was disputed until the estate passed into the hands of Robert Booth in the early fifteenth century. The estate stayed in the hands of the Booth family until 1758, when it was passed through marriage to the Grey family of Stamford in Leicester. The seventh Earl of Stamford left Dunham Massey for Enville in 1853 and the Hall and park were rented out until the return of the ninth Earl in 1906. The tenth and last Earl of Stamford died in 1976, leaving the estate to the National Trust.

The primary aim of the project was to provide a series of archaeological events, in which members of the local community would experience the excitement of archaeological discovery under appropriate supervision. In addition, the work aimed to assess the impact of the surrounding trees on the archaeology, and the potential impact of groundworks, should some of these trees need to be removed. The geophysical survey and excavation were undertaken as part of other archaeology-themed events taking place within Dunham Massey's Old Park during the same two-week period. The fieldwork (geophysics and excavation) was undertaken in an area of the Old Park, comprising areas of parkland, to the west of Dunham Hall.

The training events comprised a two-day workshop on desk-based assessments and excavation techniques, a geophysical survey over the site of a possible pheasantry, and the excavation of possible dairy buildings. The training workshops took place in advance of the fieldwork, at Dunham Massey Village Hall on 10-11th July 2010, and the fieldwork (geophysics and excavation) took place between 19th and 30th July 2010.

Both the geophysical survey and the excavation were located on the sites of buildings shown in landscape views of the estate created in the seventeenth and eighteenth centuries. These had been evaluated by SMART and National Trust volunteer Rangers in 2009. In addition to training, the geophysical survey was intended to define the extent of the pheasantry, while the excavation was intended to expose the extent of the possible dairy.

This document presents the results of the project, and assesses the significance of the archaeological resource of the site. In addition, it assessed the impact of the surrounding trees on the archaeology, with recommendations for an appropriate

strategy for further investigation to mitigate the ultimate loss of archaeological remains during the potential removal of some of these trees.

The geophysical survey identified the extent of the pheasantry, as well as a series of probable garden features. In the excavation, initially, it was assumed that, based upon the 2009 work, the possible dairy building would be within 0.3-0.4m of the present surface and that its whole extent could be uncovered. However, the area proved to have been heavily landscaped in the early twentieth century, most probably at the time of improvements to the property associated with the return of the Earl of Stamford to the house in 1906. In specific locations there was up to 1.62m of overlying deposits. The original lie of the land in the area under investigation would have fallen from west of the excavation, in the position of the current footpath, to the east, and it is also most likely fell from the north to the south, but this had been levelled with the dumped deposits.

Given the presence of this overburden, it was agreed that several trenches would be excavated, rather than a larger area encompassing the whole building. Therefore, five trenches across the site of the dairy were dug. Remains of red-brick structures were located in Trenches 1, 3 and 5, comprising walls in Trenches 3 and 5, and a floor in Trench 1. The walls in Trench 5 comprised nineteenth-century bricks, as well as bricks of sixteenth-eighteenth-century date, which had clearly been reused. The position of this structure closely matches that of an enclosure depicted in the 1876 Ordnance Survey map of the area. The floor and wall in Trenches 1 and 3, however, were constructed from bricks entirely of sixteenth-eighteenth-century date. The wall in Trench 3 may well have been the remains of the enclosure wall of a yard depicted on Van Diest's landscape (1696) and Kip and Knyff's engraving of the estate dating from 1697.

The results of this work demonstrate that, with the exception of the eastern part of the site, where the archaeology proved to be relatively shallow, much of the archaeologically significant material is quite deeply buried. It was noted that, during the excavation, the tree roots within Trenches 1, 2 and 3 did not penetrate to a depth below that of the early twentieth-century levelling of the site. It is therefore likely that the potential groundworks associated with tree removal will not have an impact upon the archaeological remains across most of the area investigated, unless these works involve excavating to a depth of over c 0.6m.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Jamie Lund of the National Trust and Andy Coutts of the South Manchester Archaeological Resource Team (SMART) for inviting its participation in the project. Thanks are also due to Sarah Talbot, Andrew Wyllie and all other staff of Dunham Massey House for their co-operation and support during the course of the project. OA North would also like to thank all SMART volunteers who assisted in talking to the public, explaining the archaeology and the work being undertaken.

The community excavation was directed by Andy Bates of OA North and Andy Coutts of SMART. The excavations were supervised by Kelly Clapperton, Phil Cooke and Becky Wegiel of OA North, and Carolanne King of SMART. The on-site finds processing was supervised by David Maron, who also liaised with the public concerning the finds, with assistance from Jeremy Bradley and Marie Rowland. The finds were assessed by Jeremy Bradley, Chris Howard-Davis and Chris Wild, with drawings produced by Anne Stewardson. The project was managed by Murray Cook, and the report was edited by Rachel Newman.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 The South Manchester Archaeological Research Team (SMART) and The National Trust planned to conduct a community-based archaeological project, supported by the Heritage Lottery Fund (HLF), which involved training workshops at Dunham Massey Village Hall (Fig 1), followed by an excavation and geophysical survey at Dunham Massey. Dunham Massey is a National Trust property, some three miles south-west of Altrincham, in the Metropolitan Borough of Trafford, Greater Manchester (SJ 7339 8733). Oxford Archaeology North (OA North) was invited to provide archaeological training workshops over a two-day event, which explained the techniques of both desk-based assessments and archaeological excavation prior to the excavation, and supervision of the excavation and on-site training of the volunteers undertaking the work.
- 1.1.2 The Dunham Massey estate covers 3135 acres of prime agricultural land and includes 21 working farms and 111 cottages. At the heart of the estate lies Dunham Hall, surrounded by its garden and a 230-acre deer park known as the Old Park, laid out in the early eighteenth century (Woodside 2000). The origins of the Dunham Massey estate can be traced back to the eleventh century when it, along with the manors of Little Bollington and Bowdon, were held by one Alweard. Following the Norman Conquest, Dunham passed to Hamo de Mascy, whose family held the enormous Baronry of Dunham Massey until c1342. Ownership was disputed until the estate passed into the hands of Robert Booth in the early fifteenth century. The estate stayed in the hands of the Booth family until 1758 when it was passed through marriage to the Grey family of Stamford in Leicester. The seventh Earl of Stamford left Dunham Massey for Enville in 1853 and the Hall and park were rented out until the return of the ninth Earl in 1906. The tenth and last Earl of Stamford died in 1976, leaving the estate to the National Trust (*op cit*, 1).
- 1.1.3 The archaeological works were to be undertaken in an area of the Old Park, which comprises areas of parkland, to the west of Dunham Hall. The geophysical survey and excavation were placed over the projected position of buildings depicted in landscape pictures of the estate, dating from the seventeenth and eighteenth centuries. Both locations were evaluated by archaeological test pits excavated by the National Trust volunteer Rangers and SMART in 2009 (Lund 2009).
- 1.1.4 The excavation was undertaken over a possible dairy building to the immediate west of the Carriage House and Stable Range, and geophysical survey was undertaken on an area c 70m to the north of the excavation, over a former pheasantry. The aims of the work were primarily to provide a community archaeological event, in which members of the local community would undertake archaeological work in a supervised environment. In addition, the project aimed to assess the impact of the surrounding trees on any archaeological remains and the potential impact of groundworks, should some

of these trees need to be removed. The excavation and geophysical survey were undertaken as part of other archaeology-themed events within Dunham Massey's Old Park.

- 1.1.5 Following the submission and approval of a project design, Oxford Archaeology North was commissioned to undertake the work. The training workshops took place on 10-11th July 2010 at Dunham Massey Village Hall, and the community excavation and geophysical survey from 19th July to 30th July 2010.
- 1.1.6 This document presents the results of the work, and assesses the significance of the archaeological resource of the site. In addition, it assesses the impact of the surrounding trees on the archaeology, with recommendations for an appropriate strategy for further investigation to mitigate the ultimate loss of archaeological remains during the eventual removal of some of these trees.

2. METHODOLOGY

2.1 INTRODUCTION

2.1.1 All work was carried out in accordance with the Tender Submission (*Appendix 1*), and was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 ARCHAEOLOGICAL EXCAVATION

2.2.1 **Trench configuration:** the 2009 evaluation test-pit (Lund 2009), had confirmed that the buildings depicted in Van Diest's 1696 landscape (Plate 1) and Kip and Knyff's 1697 engraving (Plate 2) of Dunham Massey survived immediately below the present ground surface and identified the eastern extent of the buildings and enclosed yard. The complex of buildings had an approximate east-west orientation and it was proposed that an area should be excavated to the west of the test-pit to identify the north and south walls of the buildings depicted (Trench 1) and then to locate the western wall in a trench perpendicular to the first (Trench 2). Trench 1 had, in the event, to be dog-legged around a tree, the dog-leg being recorded as Trench 3. From the archaeological remains located within these two trenches, it was intended to locate an area suitable to be opened up as a wider area of excavation. However, the depth at which the structures were buried meant that a wider open area was not a feasible proposition. Therefore, in total, five smaller trenches of varying sizes were excavated across the area (Fig 2).

- *Trench 1* was aligned north-west/south-east and measured 13.7m by 2m wide, with a 2m extension to the north-east, being excavated across the projected width of the buildings and enclosure complex. The trench was placed over the projected line of two walls, part of either the enclosure or buildings, and the area between these walls;
- *Trench 2* was aligned north-east/south-west and measured 12.3m in length and 2m wide, being placed over the projected south-western buildings and south-western end of the enclosure;
- *Trench 3* was aligned north-west/south-east and measured 2.75m in length and 2.3m wide. Trench 3 comprised a dog-leg to Trench 1, to avoid a tree, and as such was placed over the north-western side of the enclosure and complex of buildings;
- *Trench 4* was aligned north-west/south-east and measured 3.9m in length and 0.7m wide. The trench was positioned over the projected south-western half of the buildings and enclosure complex. Trench 4 was excavated over two days by the Young Archaeologists Club (YAC) during their visit to the site, directed and supervised the YAC leaders;

- *Trench 5* was aligned north-west/south-east and measured 2.3m by 1.3m. Its position was determined by aligning the gable wall located by the trial trench excavated in 2009 (Lund 2009), and the position of wall **I53** located in Trench 3, to attempt to locate the northernmost corner of a north-east/south-west aligned building (Plate 3).

2.2.2 **Excavation:** the turf of each trench was removed using hand tools. All further excavation of the trench was also undertaken with hand tools, with all spoil being scanned for artefacts.

2.2.3 Recording comprised a full description and preliminary classification of the deposits and materials revealed, on OA North *pro-forma* sheets. The trenches were located with a Total Station Theodolite (TST) and tied into the Ordnance Survey grid using a Global Positioning System (GPS). Hand-drawn plans were produced showing the contents of the trenches, with representative sections being drawn at a scale of 1:10 or 1:20, as appropriate. An indexed photographic record using monochrome, colour slide and digital formats was maintained.

2.3 GEOPHYSICS

2.3.1 **Introduction:** resistivity relies on the relative inability of soils to conduct an electrical current when passed through them, being linked to both the moisture content and porosity of soils. Therefore, dense features that are impervious, such as stone, offer relatively high resistance to the current, while features such as ditches, which are usually moisture retentive, give a relatively low resistance response. An RM15 resistance meter manufactured by Geoscan Research, Bradford, was utilised for this survey, which was attached to a Geoscan Research mobile Twin Probe Array. The array was configured to a probe separation of 0.5m (which has a typical depth of penetration of approximately 0.5-1m) with two remote probes, connected to the RM15 via a cable drum, positioned approximately 15m outside the survey grid. The RM15 uses an internal automatic data-logger which permits survey data to be recorded as the survey progresses. The data are later downloaded to a computer for processing and presentation. Although the values being logged are actually resistance in ohms, they are directly proportional to resistivity (ohm-metres), as the same probe configuration was used throughout the survey.

2.3.2 **Field Survey:** the survey area was divided into 20 x 20m survey grids, totalling 0.20ha (Fig 3); the survey traverses were 0.5m apart and readings were taken at 0.5m intervals along these traverses. Therefore, in a full 20 x 20m survey grid, 1600 readings are taken. All traverses were surveyed in 'zig-zag' mode. Data collection at 0.5m centres with a 0.5m probe separation provides a balance between cost and resolution.

2.4.3 **Data processing:** following data collection in the field, the data were downloaded and processed on a computer using the specialist software *Geoplot 3*, developed by Geoscan Research. Minimal processing of the data was undertaken so as to enhance any archaeological anomalies without distorting the data image.

2.4 ARCHIVE

- 2.4.1 The results of the archaeological evaluation will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects*, 2nd edition, 1991) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (Walker 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project.
- 2.4.2 OA North conforms to best practice in the preparation of project archives for long-term storage. The archive and the excavated material will be deposited with Dunham Massey House. In addition, a copy of the archive will be made available for deposition in the National Archaeological Record. The Arts and Humanities Data Service (AHDS) online database project *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.
- 2.4.3 The material and paper archive generated from the evaluation will be transferred in accordance with the guidelines provided by *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation* (Brown 2007).

3. BACKGROUND

3.1 LOCATION, TOPOGRAPHY AND GEOLOGY

- 3.1.1 The area under investigation lies within Dunham Massey Old Park (centred on SJ 7339 8733), a former medieval hunting park (Woodside 2000, 24; Fig 1). The park is bounded on its northern, eastern and western sides by the park wall. To the west of this area flows the River Bollin, whilst to the north is the Bridgewater Canal.
- 3.1.2 The topography of the immediate area forms a generally level plateau, which lies at a height of *c* 23.50m aOD. To the west, the ground falls sharply to *c* 17.00m aOD close to the park wall, whilst a small relict river valley is found to the north-east, immediately to the west of the dam of the moat. The base of this valley lies at *c* 17.00m aOD and it contains a dense covering of vegetation. Prior to the construction of the dam, this river valley would have extended to the north-east, beneath the moat, and to have linked with a stream whose position is plotted on nineteenth-century mapping.
- 3.1.3 The underlying solid geology of the area comprises Helsby Sandstone dating to the Triassic period (250-200 million years ago), whilst the superficial geology is composed of Devensian (10,000-70,000 BP) Glaciofluvial sands and gravel. Machine stripping of the car park development area in early 2009 revealed that the superficial geology also included occasional pockets of clay (Lund 2009, 9).

3.2 HISTORICAL BACKGROUND

- 3.2.1 The desk-based study for the site was completed as part of the 2009 phase of work by the South Manchester Archaeological Resource Team and Jamie Lund of the National Trust, (Lund 2009, 9-13). It is from this document that the following background and map regression is drawn, focusing on the development of the Old Park in the area of land under investigation.
- 3.2.2 ***Late seventeenth- to mid-eighteenth-century activity:*** the Old Park probably originated as a medieval hunting park (Woodside 2000, 24). During the late seventeenth century, the Old Park was enlarged by Sir Henry Booth (1651-94), the First Earl of Warrington, but it was his successor, Sir George Booth (1675-1758), the second Earl, who had the most profound influence on the park. Although the estate was run down and in debt when George Booth inherited it, he did much to revive its fortunes. The hall was rebuilt in the Georgian style, and the parkland redesigned with woods and formal avenues, whilst maintaining its riding, hunting and shooting facilities. He also constructed new buildings in the area of parkland. Two landscape pictures of the estate exist, dating from the late seventeenth century: a painting by Adriaen Van Diest of 1696, and an engraving by Kip and Knyff of 1697 (Plates 1 and 2). They depict the hall before the rebuilding of the 1730s, with adjacent formal

gardens. The surrounding parkland comprised fairly open ground with scattered trees, with farm animals and buildings close to the hall.

- 3.2.3 These works also provide the earliest representations of the buildings under investigation. The Van Diest view from the south-west depicts a pair of single-storey brick and slate buildings, roughly square in plan, with two brick walls creating a small enclosed yard between them. The building to the east is shown to have a large chimney and window. The second building, to the west of the enclosed yard, is shown without a window in the painting by Van Diest, but is depicted with a door in the Kip and Knyff engraving. Both the Van Diest and Kip and Knyff images depict a pond to the north of these buildings. More interestingly, in the latter engraving, on the western side, a single-storey brick building with three doorways is also shown. It may be that this was a new construction, or that some artistic licence must be allowed for in the earlier Van Diest landscape, given the perspective of his view. The function of these structures is uncertain, but a building with three adjacent doorways could have been used to house animals, such as cattle or horses, so the buildings may have functioned as either a dairy or a stable.
- 3.2.4 A series of landscape paintings of the estate, made by John Harris in c 1751, was commissioned by the second Earl of Warrington (Plates 3-6). They post-date the extensive early eighteenth-century rebuilding of the hall and changes to the park. The new Georgian hall and carriage house are depicted, which were built in 1721; the stables to the front of the main buildings were built soon after. The park is depicted as heavily wooded, the result of extensive tree planting by the second earl (Woodside 2000, 30-1), and the farm buildings depicted to the fore of the hall in the seventeenth century are no longer visible.
- 3.2.5 All four of the Harris Views show a pair of single-storey buildings opposite the gap between the carriage house and the stable block. It seems very likely that these are the buildings shown on or very near the same spot by both Van Diest and Kip and Knyff. However, the buildings depicted by Harris are on a slightly different alignment from those shown on earlier depictions, although this may be a product of artistic licence or survey error.
- 3.2.6 Harris' *Bird's-eye View from the north* (Plate 3) gives the best depiction of this possible dairy or stable complex. The building to the east appears as a single-storey brick and slate building with a gable roof. The chimney and window would suggest that this is indeed the same building shown by Van Diest and Kip and Knyff. The enclosed yard appears to have been removed and replaced by a small outshut or extension on the west side. The second, square, building, which formed the western end of the enclosed yard, is also absent. A single-storey range with three doorways is depicted, but now as a separate structure to any building to the west.
- 3.2.7 The *Bird's-eye View from the south* (Plate 4) shows an additional lean-to on the eastern side of the square building, with a window and chimney, as well as showing the extension on the west in more detail. The northern elevation of the western detached range is also shown, with a single central doorway and two small ground-floor windows.

- 3.2.8 The depiction of these buildings on the *Bird's-eye View from south-west* (Plate 5) is somewhat at odds with previous depictions, in that the detached range is shown as a more substantial building than the square building further to the east. The *Bird's-eye View from the south-east* (Plate 6) shows no additional detail. All four Views clearly show what are possibly dairy or stable buildings located in an open area of parkland, which is dotted with trees and bounded on the west by dense woodland.
- 3.2.9 **Late eighteenth- and nineteenth-century activity:** in 1758, following the death of Sir George Booth, the Dunham Massey estate passed into the hands of his daughter Mary, who was married to the Earl of Stamford (Woodside 2000, 28). At her death in 1772, the estate passed to her son, Harry Grey, the fifth Earl of Stamford (1739-1819). It appears that both the Countess of Stamford and her late eighteenth- and early nineteenth-century heirs left the formal design of George Booth's Old Park largely intact.
- 3.2.10 Bryant's map of Cheshire, surveyed in 1829-31 (Plate 7), depicts a solid rectangle roughly due west from the gap between the 1751 carriage house and stables. This suggests a building at the site, but gives no further detail. The location is very similar to those shown in earlier depictions of the dairy or stable by Adriaen Van Diest and Kip and Knyff (Plates 1 and 2). Bryant's decision to align the building north-south rather than east-west is likely to be an oversight.
- 3.2.11 The pheasantry is also shown for the first time on Bryant's map, as part of a complex of three buildings in an area of open ground west-south-west of the house. The distinctive arrangement of three large buildings, presumably the barn, kennels and pheasantry, is shown, although the alignment is again incorrect. The pheasantry is shown to be on a south-west/north-east alignment, rather than north-west/south-east, as shown in all later Ordnance Survey (OS) maps.
- 3.2.12 The 1839 Tithe Award Map for the Township of Dunham omits any depiction of the dairy or stables (Plate 8). The area to the west of the carriage house and stables is simply shown as open ground. However, the pheasantry is depicted on its correct north-west/south-east alignment, alongside the barn and kennels.
- 3.2.13 The 1876 1:2500 OS map shows radical changes to the area of the dairy or stables (Plate 9). An L-shaped enclosure, divided into two smaller enclosures, and with two small structures in the northern- and southernmost corners of the larger area, is depicted in this location. The function of this enclosure and its structures is unknown, but it is possible that it had been constructed in the footprint of the earlier buildings. This L-shaped enclosure was accessed from a path extending south-west from beneath the clock tower into the parkland, before sweeping round to head south to give access to the rear of the enclosure.
- 3.2.14 The pheasantry is also shown in good detail on the 1876 1:2500 OS map (Plate 9). It depicts a long and narrow rectangular building on a north-west/south-east alignment. A set of six square closed pounds or yards is shown on the western side of the building, which appear to contain small trees or shrubs,

presumably for roosting, along with a narrow path. An access path can be seen running along the north-east side of the pheasantry, and around its south-eastern end, giving access to the pens at the rear.

- 3.2.15 The 1898 and 1899 OS maps show the same L-shaped rectangular structure on the site of the stable or dairy buildings (Plates 10 and 11). The only visible change is the loss of the small structure in the northern corner of the enclosure.
- 3.2.16 The six pounds or yards on the west side of the pheasantry are absent from the 1898 OS map (Plate 10), leaving the building without any external attachment. Instead, three conifer trees are shown occupying this area. It is possible that these trees may have descended from the young trees depicted inside the yards on the OS map of 1876 (Plate 9). To the west of these, a break of slope, also depicted on the 1876 edition, marks the extent of the levelled area upon which the former runs or roosts had stood.
- 3.2.17 *Early twentieth-century activity:* the L-shaped enclosure depicted on the nineteenth-century OS maps is absent from the twentieth-century mapping of the area. It must have been removed in its entirety between the time of the 1899 OS map and the 1910 edition (Plates 11 and 12).
- 3.2.18 The pheasantry appears to have undergone significant change in the early twentieth century. The 1910 OS map shows a set of eight small yards or pounds along the western side of the building, with a single larger enclosed area extending from its southern end (Plate 12). These features have the appearance of kennels, and many local people who remember the building believe it fulfilled this function during the twentieth century. Subsequent OS maps, up to and including the 1938 edition, show no change to the pheasantry until the 1954 OS map (Plate 13), by which time the building had been demolished. The small enclosures along the western side of the former building, however, are still depicted and must have remained for some time. By the time of the 1968 OS map, these seem to have been removed, with the area depicted as being contained by a rectangular fenced enclosure (Plate 14). This rectangular enclosure appears on all OS editions between 1968 and 1983, but is absent from the 1999 OS map.

4. EVALUATION RESULTS

4.1 INTRODUCTION

4.1.1 In total, five trenches were excavated of varying sizes across the area of the dairy or stable complex depicted in Van Diest's landscape of 1696 (Plate 1) and Kip and Knyff's 1697 engraving (Plate 2; *Section 2*). An overview of the results is presented below, with a description of each archaeological deposit and structure provided in *Appendix 2*.

4.2 TRENCH 1

4.2.1 Trench 1 was excavated on a north-west/south-east alignment, across the projected width of the building and enclosure complex (Figs 2 and 4; Plate 15). The trench was targeted to reveal the two side walls of either the enclosure or buildings depicted, and the area between these walls. It measured 13.7m in length and 2m wide, and was excavated to a maximum depth of 1.2m. After the removal of the turf, a sondage was excavated down the eastern side of the trench. This measured 9.4m in length and 1.0m wide (Fig 5).

4.2.2 The earliest deposit encountered was layer **164**, at the base of a box section measuring 0.8m in length and 0.3m wide, in the southern half of the sondage. It comprised a mid-orangey grey clay, with some stones and darker sediment from the overlying deposit in its upper surface. This layer may possibly be the natural clay, albeit with its upper surface somewhat disturbed, located 0.87m below the current ground surface.

4.2.3 Overlying **164** was layer **125** (Fig 5). This comprised a mixed deposit, including dark grey sediment, clinker and clay, thought to have been laid as a levelling deposit for floor **130**. Floor **130** comprised handmade bricks, sixteenth- to eighteenth-century in date, at a depth of 1.02m below the ground surface (Plate 16). It may have been either a floor in the south-westernmost building, the yard depicted on the Van Diest landscape (Plate 2), or one of the buildings depicted in the Harris Views (Plates 3-6). Alternatively, these bricks may have been reused in the enclosure depicted on the later nineteenth-century OS mapping of the site. This floor did not extend across the entirety of the excavated sondage, but this is most likely a result of disturbance and/or the robbing of the bricks. In the southernmost 4m of the sondage, also overlying deposit **125**, was layer **131**. This comprised a dark grey silty deposit, with frequent brick and inclusions, interpreted as an area where floor **130** has been disturbed.

4.2.4 This masonry and associated deposits were buried below up to 1.02m of levelling deposits, including deposits **105**, **106**, **107**, **108**, **118**, **121**, **149**, **151** and **163** (Fig 6; Plate 17). These deposits, comprising silt and clay with large amounts of sandstone, brick, tile, and roofing slate fragments (*Appendix 2*), appear to have been tipped from the north-west to level the area. Finds from

these layers suggest a date of either the late nineteenth or early twentieth century (*Section 4.7*). Overlying these layers was *c* 0.3m of topsoil and turf.

4.3 TRENCH 2

4.3.1 Trench 2 was aligned north-east/south-west, measuring 12.3m in length and 2m wide, reaching a maximum depth of 1.2m (Figs 2 and 4; Plate 18). The trench was placed over the projected location of the south-westernmost buildings and the enclosure depicted in Van Diest's landscape of 1696 (Plate 1) and Kip and Knyff's 1697 engraving (Plate 2). After the removal of the turf and initial cleaning, a sondage was excavated along the northern edge of the trench, measuring 9.8m in length and 1.0m wide (Fig 7). Natural geology was not encountered within this trench.

4.3.2 Stratigraphically, the earliest deposit encountered was layer **145**. It comprised a dark brown-grey sediment with cinder deposits within its matrix, located in the north-eastern half of the excavated sondage (Fig 7; Plate 18). Finds from **145** included material from the nineteenth century. Overlying this deposit was a series of early twentieth-century levelling layers, including deposits **111**, **112**, **113**, **119**, **126**, **127**, **128**, **129**, **146**, **148**, **155**, **156** and **165** (Plate 19). These layers were very mixed, indicating their disparate origins, but again contained numerous fragments of demolition debris, including sandstone, brick, and roofing slates (*Appendix 2*). Finds from these deposits included material from the eighteenth and nineteenth centuries (*Section 4.7*). Overlying these deposits was up to 0.15m of topsoil.

4.4 TRENCH 3

4.4.1 Trench 3 formed a dog-leg at the north-western end of Trench 1, around a tree (Figs 2 and 4). It was excavated on a north-west/south-east alignment, measuring 2.75m in length and 2.3m wide, and reaching a maximum depth of 1.2m. It was placed over the north-western wall of either the north-easternmost buildings or the yard depicted in Van Diest's landscape of 1696 (Plate 1) and Kip and Knyff's 1697 engraving (Plate 2). After the removal of the turf, a sondage measuring 2.75m by 1.4m was excavated along its western side (Plate 20). At a depth of 0.9m, the sondage was stepped by 0.4m, with only the central 0.5m excavated to the maximum depth of the trench (Fig 8).

4.4.2 Natural geology, **135**, was encountered 0.75m below the current ground surface. Cut into this was construction cut **132**, within which red-brick footings and wall **133** had been constructed (Fig 8). The cut measured 0.08m deep and a minimum of 1.25m wide, on a north-east/south-west alignment. Masonry **133** comprised two courses of brick, 0.50m wide and 0.13m deep, which formed the wall footing (Plate 21). Upon these, five courses of brick formed the surviving elements of the wall, which was 0.35m wide and 0.41m high. All but one course of the brickwork had been laid as stretchers, the exception being headers, in the south-eastern elevation. The bricks were all handmade, dating from the sixteenth to eighteenth centuries (*Section 4.7*), bonded by a light grey lime mortar.

- 4.4.3 The construction cut, **132**, had been backfilled on the south-eastern side of the wall by deposit **134**. On the north-western side of wall **133**, the area was backfilled by redeposited clay, **167** (Fig 8), up to the height of the surviving wall. It appears as though the construction of this wall involved cutting into the natural slope, which originally must have fallen from the north, to create a level area for the building and enclosure complex. The void between the wall and the higher ground to the north had then been backfilled with redeposited clay (Fig 9).
- 4.4.4 Whether this wall formed part of a building or an enclosure, some form of surface would reasonably be expected on the southern, interior, side, of stone, brick or compacted earth. No such deposits were encountered. Deposits **147** and **138** may perhaps be interpreted as make-up layers from beneath such a floor, which presumably had been robbed completely. Deposit **138** contained a Wedgewood plate that was manufactured in 1860, as well as a number of nineteenth-century stoneware polish and blacking bottles (*Section 4.7*).
- 4.4.5 Overlying these was a series of early twentieth century levelling deposits, including **101**, **102**, **103**, **104**, **115**, **116**, **117**, **122**, **135**, and **152** (Plate 22). These were similar to the mixed demolition deposits seen in Trenches 1 and 2 (*Appendix 2*). In turn, these were sealed by 0.08m of topsoil and turf.

4.5 TRENCH 4

- 4.5.1 Trench 4 was excavated over two days by the Young Archaeologists' Club (YAC) on its visit to the site (Fig 2; Plate 23). It measured 3.9m in length and 0.7m wide, and reached a maximum depth of 0.4m, being placed over the projected southern-western half of the dairy or stable complex. Some 0.1m of turf and topsoil was removed prior to YAC's arrival on site. The YAC group excavated 0.3m of imported soils, **124**, to reveal a cinder-rich deposit, **123**, at the base of the trench. The finds from **124** were all of nineteenth- or twentieth-century date, and included a plate with a solitary 'S' upon it, presumably for the Earl of Stamford. Both of these deposits were clearly connected with the early twentieth-century landscaping of the area.

4.6 TRENCH 5

- 4.6.1 The position of Trench 5 was determined by aligning the position of wall **133** within Trench 3 (*Section 4.4*) with the wall located in the 2009 trial trench (Lund 2009; Figs 2 and 4). This would hopefully locate the northern corner of the putative building, assuming the two walls related to each other. The excavated trench was largely very shallow, although it had a maximum depth in one area of 1.07m. A small sondage measuring 0.4m by 0.18m was excavated to a further depth of 1.62m, in an attempt to identify any floor of the structure located in the trench.
- 4.6.2 The earliest feature identified was masonry **153** (Fig 10; Plates 24 and 25). It was a red-brick construction, and formed the northern corner of a building. The south-east/north-west element of this building measured 0.97m within the

trench, continuing beyond the eastern limit of excavation, and was 0.35m wide. The north-east/south-west element of the wall measured 0.22m wide and 0.87m in length within the trench, continuing beyond the southern limit of excavation. Two types of brick were present within the fabric of the wall, one a handmade brick, dating from the sixteenth to eighteenth centuries, most likely originating from either the seventeenth- or eighteenth-century phase of construction. The second type was wire-cut, nineteenth-century engineering brick (*Section 4.7*). The interior south-east- and south-west-facing elevations of the wall were both faced with these nineteenth-century bricks. A light grey lime mortar bonded the structure, with the bricks laid in an English Garden Wall pattern. The interior face of this wall was excavated to a depth of 1.43m in a small sondage excavated adjacent to the interior corner. The ground was further probed with a road iron, with solid ground, potentially a floor, at a depth of 1.9m below the top surviving course of the wall. Protruding from the south-west elevation of **153**, at a depth of 0.67m as measured from its upper course, was a 75mm (3 inch) diameter cast-iron pipe, **168**. Presumably this pipe either supplied or drained water to or from the building.

- 4.6.3 A second red-brick structure, **166**, was located 50mm to the north-east and parallel to wall **153** (Fig 10; Plate 24). It was also constructed of wire-cut-nineteenth-century bricks. In total, masonry **166** measured 0.97m in length, 0.25m wide and 0.42m deep. Masonry **162** comprised an arrangement of five part-bricks used to span the gap between structures **153** and **166**, although its purpose is not obvious. They are quite likely to be a later addition to **153**, with the corner of **153** being removed to accommodate them. The upper surface of these bricks was very worn, and had clearly been exposed to both the elements and wear.
- 4.6.4 Within the interior formed by wall **153** lay deposit **140**, which contained nineteenth-century pottery. Deposit **161** abutted **153** from the west, and is thought to have been backfill against this wall, although it was found below, and therefore pre-dated structure **166** (Fig 10; Plate 26). This layer is likely to have been sediment used to landscape the area after the construction of wall **153**. It was left largely unexcavated and produced no finds. Above **161**, and parallel to the north-east/south-west-aligned element of **153**, was a layer of fragmented brick, **154** (Plate 27). Its purpose was not clearly resolved, but it may have formed a layer of hardcore for an overlying structure, such as a path, or have been associated with drainage.
- 4.6.5 In the eastern corner of Trench 5, three deposits and one feature were excavated, all of which post-dated masonry **166** (Fig 11; Plate 28). Layer **141**, which prior to excavation covered **166**, was a clay deposit, clearly used to level the area. Similarly, deposit **157**, a dark sediment with clay inclusions, was also part of this landscaping. Truncating deposit **141** was linear feature **158**, filled by deposits **159** and **160**. This measured at least 0.10m wide and at least 0.20m deep, but was largely beyond the eastern limit of excavation. All of these layers and structures were sealed below 0.3m or topsoil and turf, although feature **158** may have originally truncated this soil horizon.

4.7 THE FINDS

- 4.7.1 Some 36 boxes of finds were recovered from 67 stratified contexts. The majority of the material was pottery.
- 4.7.2 *The pottery*: in general, the fragments were in good condition, in an unabraded state, with a dozen or more complete vessels, as well as large or diagnostic sherds, or sherds with makers' marks. The pottery ranges in date from the late seventeenth century to the early twentieth century and largely comprises table and kitchen wares, in an assemblage that could be described as utilitarian, or 'below stairs', rather than pieces that would have been used in formal dining. Refined white earthenwares, a catch-all term for creamware, pearl ware and whitewares, which were closely related in terms of manufacture and forms (Barker 2008), make up the majority of the sherds, and can be dated generally to the second half of the nineteenth century. Stoneware bottles, which contained ginger beer, polish and blacking, were also common. Coarsewares, such as blackware, were rare amongst the assemblage.
- 4.7.3 *Dating*: the earliest pottery comprised single sherds of Metropolitan-type slipware, blackware and Midlands Purple-type ware. The single Metropolitan-type rim sherd was derived from an early twentieth-century levelling layer, **107** (Trench 1), and such pottery was known to have been manufactured in the Midlands between the mid-1640s and the mid-1660s (Barker 1993, 11). The Midlands Purple ware body sherd, also from an early twentieth-century levelling layer, **138** (Trench 3), has its origins in the late medieval period, but continued into the seventeenth and early eighteenth centuries, in the form of butterpot-type vessels, which may be significant, as the site may have been used as a dairy. A small rim sherd from an early blackware vessel, possibly a cup, of probable seventeenth-century date, was recovered from redeposited clay **141** (Trench 5). Unusually for the site, there were only two very small sherds of white ware from this deposit, which may have been intrusive. A single, almost complete, chamber pot, decorated with the 'Italian' motif, from layer **108** (early twentieth-century levelling layer; Trench 1), dates to *c* 1816 or later (Coysh and Henrywood 1982, 191). A small selection of the pottery can be ascribed to *c* 1840, with the occasional fragment of industrial slipware, common in the nineteenth century, with, in one instance, mocha decoration (Barker 1993, 29), from a further early twentieth-century levelling layer (**141**). Two basal sherds from a pint mug, decorated with a wild flower motif, from layer **106** (early twentieth-century levelling layer; Trench 1), probably date to the same period.
- 4.7.4 The majority of the pottery is likely to date from the last half of the nineteenth century. This dating can be backed up by a number of makers' marks found upon some of the pottery (Table 1), which date to 1860-1943 (Godden 1990). That the entire pottery assemblage was retrieved from a backfilled building that was known to have gone out of use completely by 1910 (OS 1910), would suggest a date range from the last quarter of the nineteenth century to the first decade of the twentieth century.

Makers' mark	Manufacturer	Date	Context
T G & F B	T G & F Booth, Tunstall	c 1883-91	102
B & K L	Barkers & Kent, Fenton	c 1889-1941	127
Asiatic pheasants/B & K L	Barkers & Kent, Fenton	c 1889-1941	113
Booths/Royal Semi-Porcelain/ Staffordshire	Booths Ltd, Tunstall	1891-1906	113
Wild Rose/P B & S	Powell, Bishop and Stonier, Hanley	1878-91	113
Stoneware/Wedgwood & Co	Wedgwood	1860+	138
Bisto	Bishop and Stonier, Hanley	c 1891-1939	108
G J	George Jones (and Sons Ltd), Stoke	1874+	108

Table 1: Pottery makers' marks from the Dunham Massey assemblage (information from Godden 1990)

- 4.7.5 *Fabric and forms*: the majority of the pottery was refined white earthenwares and comprised, in the main, plates, saucers and dishes. Two [or three] of these have the Grey family crest upon them (from **124** and **108**; Trenches 4 and 1), whilst another plate has a solitary 'S', presumably for the Earl of Stamford (**124**). Stoneware made up another significant portion of the assemblage, being mainly used as storage vessels, for example, various sized jars, some inscribed with Hartley, which may date to 1898 and after (Anon nd).
- 4.7.6 Stoneware bottles were also recovered which had contained polish and blacking, denoted by their wide necks, ink bottles, denoted by spouts, and ginger beer bottles, some bearing the makers' name (eg Latham Brothers, of Barton upon Irwell, layer **108** (Trench 1), and Eddowes of Warrington, layer **116** (Trench 3)), as well as others with makers' marks (eg Price of Bristol, which dates to c 1900: layer **108** (Trench 1)). A blackware bottle (neck, shoulder and handle), also from layer **108**, was unusual within the assemblage, since there was a dearth of vessels in this fabric. Unfortunately, blackwares, because of their longevity as a tradition, cannot be closely dated, particularly as these 'bellied' bottles were in use from the eighteenth century and were still being sold, albeit in stoneware, in the 1870s (Green 1999, 151-2, 165, 365).
- 4.7.7 A large Nottinghamshire-type stoneware stew pot was also recovered from layer **117** (Trench 3). This type of pottery is a long-lived tradition, and so cannot be dated with any certainty, but adds to the canon of domestic and kitchen ware recovered from the site, and which characterise the assemblage.
- 4.7.8 The majority of the pottery dates from the second half of, and in all likelihood the last quarter of, the nineteenth century and into the first decade of the twentieth century. It comprises primarily domestic wares used to service the house, rather than items of high-status tableware, and as such can illustrate many aspects of the day-to-day operation of the household. Such items include the polish and blacking bottles, Hartley's jam jars, stoneware ginger beer

bottles and the stoneware stew pot. The plates and saucers with an ‘S’ monogram of the Earl of Stamford, or the sun and unicorn crest of the Grey family, are of poor quality and therefore likely to have been intended for the use of staff, reflecting the adoption of a household livery throughout the establishment. The pottery is a closely dated assemblage and may be related to a specific event in the house’s history, namely the period of return of the ninth Earl, Harry Grey, in 1906, after having been abandoned by the eighth Earl (George Harry Grey), after this marriage to his second wife in 1855 (Woodside 2000, 28-9). It was at this time that that work was done to modernise the property. As such, the assemblage offers a good opportunity, solely within the context of Dunham Massey, to study ceramic remains from the site, particularly if the assemblage can be compared with surviving material from the kitchens and dining rooms.

4.7.9 **The bricks:** brick samples were taken from five structures or layers of the site for analysis (Table 2). Within this sample, two brick types were identified. The earlier brick type was handmade, uneven in form, with dimensions similar to bricks in use prior to the introduction of the Brick Tax in 1784 (Harley 1974, 74-5). They, therefore, date from some time between the sixteenth century and 1784. The second type is an engineering brick of the late nineteenth century.

Contexts	Category	Number of Bricks	Brick Type and Date
130	Brick floor	1	Handmade bricks, sixteenth century to 1784
133	Wall	1	Handmade bricks, sixteenth century to 1784
153	Wall	2	Handmade bricks, sixteenth century to 1784; late nineteenth-century engineering bricks
154	Layer	2	Handmade bricks, sixteenth century to 1784; late nineteenth-century engineering bricks
162	Masonry	1	Late nineteenth-century engineering bricks

Table 2: Dates of selected bricks from the excavation

4.7.10 **Other finds:** several other types of finds were recovered, particularly from the layers of backfilling. These comprised a large group of vessel and window glass (11 boxes), and a similarly large group of metalwork (six boxes). Like the pottery, it has a relevance to specific events in the life and development of Dunham Massey, but is otherwise of little archaeological interest.

4.7.11 Many of the glass vessels (approximately 100) are complete, and clearly derive from the same milieu as the pottery, being for the most part mass-produced bottles for soft drinks, alcohol, proprietary medicines, and other liquids, of kinds that might be expected in a large commissary-type kitchen. They are very close to the pottery in date (late nineteenth-early twentieth century), and there can be little doubt that they were disposed of during the same episode of clearance. The textured sheet window glass, found in large quantities, but only sampled by this investigation, presumably derived from

demolition debris, also dumped, along with other building debris, such as brick and roof tiles, at the beginning of the twentieth century.

- 4.7.12 The metalwork was almost entirely made up of mass-produced ferrous objects (no attempt was made to differentiate between iron and steel). All were in a very poor state, crushed and fragmentary, and apart from a few larger and more robust objects, which appeared to be galvanised fire buckets, very few objects could be identified.

5. GEOPHYSICAL SURVEY

5.1 INTRODUCTION

- 5.1.1 The resistivity survey was undertaken between 19th and 29th July 2010. The ground was relatively firm underfoot and was laid down to short turf, with some individual standard trees. The solid geology consists of the Helsby sandstone formation, comprising sandstone, conglomerates and siltstones, whilst the superficial geology is mainly Devensian sand and gravels (www.bgs.ac.uk). The soil types consist of naturally wet very acid sandy and loamy soils (www.landis.org.uk/soilscapes).
- 5.2.2 The weather conditions varied during the course of the survey, with some heavy rain experienced on 27th and 28th July. This affected the quality of the data collected to some extent, particularly in survey grids 3 and 4 (Fig 3). The data were collected by Karl Taylor, together with volunteer archaeologists, as well as members of the general public.

5.2 RESULTS

- 5.2.1 **Anomaly R1:** two areas of slightly higher-resistance anomalies were aligned north-west-south-east (Figs 12 and 13). There are features within these two areas suggestive of buried structures, such as building foundations, visible in the southern area (Fig 14). The rectangular arrangement of higher-resistance anomalies corresponded to a similarly rectangular arrangement of slightly raised linear earthwork features observed on the ground. This in turn seems to match the layout of the former pheasantry, as illustrated on the OS mapping prior to 1954.
- 5.2.2 **Anomaly R2:** a low-resistance linear anomaly was detected diagonally crossing the site, the general nature of which initially suggests it could be a ditch or drain (Fig 14). The OS map of 1876 (Plate 9) shows a series of paths connecting the various buildings, including the pheasantry, to the main drive. One the paths coincides exactly with this anomaly, and implies that the course of the path was originally excavated and filled with a lower-resistance material than the surrounding area. The watertable in this area is also naturally high and therefore the line of the path may be more moist than the surrounding area. There is a second path shown on this map which is not displayed clearly by the resistance data. By the time of the 1898 OS map and subsequent mapping, the paths are no longer depicted.
- 5.2.3 **Anomaly R3:** this group of anomalies is of quite high resistance, and they do not form any recognisable pattern (Fig 14). This would indicate that they may be due to either the natural geological background or, given that the pheasantry was demolished, building rubble.

- 5.2.4 **Anomaly R4:** situated at the rear of pheasantry building, as illustrated on the 1876 OS map (Plate 9), is a large enclosure with various divisions within it. This appears to have been sited upon a flat area, which is still visible in this part of the site. The 1898 OS map, while not showing the enclosure, illustrates an embankment at the west side (Plate 10). The area of low resistance may indicate that this flat area is made ground and was built up in order to accommodate the enclosure. There is no evidence within the data of any internal divisions within the enclosure.
- 5.2.5 **Anomaly R5:** these anomalies are ‘halos’ of higher resistance, situated around trees present on the site. This is usually due to compaction of the soils around the roots.
- 5.2.6 **Anomaly R6:** at the front of the cottages situated to the north of the survey area is an indistinct track, currently used for car parking by the residents of the cottages. This is also shown on the nineteenth-century maps. It is characterised in the data by a low-resistance response, probably for the same reasons outlined for Anomaly **R2** (Section 5.2.2).

5.3 INTERPRETATION

- 5.3.1 The survey has highlighted a number of anomalies which probably pertain to features shown on the cartographic sources. Of particular note are the anomalies, such as **R1** and **R2**, which are visible as raised lines on the ground. The rectangular anomalies in the southern part of **R1** are possibly related to the buried foundations of the pheasantry. The area of low resistance to the west of this is probably a result of the ground being made up to accommodate the enclosure visible on the OS maps. There is a slope to the west of the flat area, which is illustrated on both the 1876 and 1898 OS maps.

6. CONCLUSIONS

6.1 INTRODUCTION

6.1.1 At the outset of the project, based on a previous archaeological trench in the eastern part of the site (Lund 2009; Fig 2), it was thought that archaeological remains would be at a shallow depth. It was therefore envisioned that a larger area would be opened up for excavation, rather than several separate trenches. Upon excavation, however, much of the area proved to have levelling deposits of around 1m deep. The excavation, therefore, proceeded through the excavation of smaller separate trenches over the area. The project aimed to locate any surviving archaeological structures or features associated with the posited dairy or stable block (*Section 4.5.1*), dating from the seventeenth and eighteenth centuries. These structures had at least two phases of construction, if Van Diest's landscape of c 1696 and Kip and Knyff's 1697 engraving, together with landscapes painted by Harris c 1751 (Plates 1-6), can be believed. Historical mapping suggests that these structures were replaced in the later half of the nineteenth century by an enclosure with two smaller structures (Plate 9).

6.2 DISCUSSION

6.2.1 *Seventeenth- to nineteenth-century structures:* structural remains were located in Trenches 1 and 3, below the levelling deposits, and in Trench 5 below the topsoil. They comprised red-brick constructions, including a brick floor, **130**, in Trench 1 (Fig 5; Plate 16), a north-east/south-west-aligned wall, **133**, in Trench 3 (Fig 8; Plate 21), and wall **153** in Trench 5 (Fig 10; Plate 25). This formed the northern corner of a north-east/south-west-aligned building, with masonry **166** and **162** forming an ancillary structure (Fig 10; Plate 24). The walls in Trenches 3 and 5 did not appear to align perfectly (Fig 4), and are notably of different constructions in fabric and form (Plates 21 and 24).

6.2.2 The fabric of these structures and the finds within them complicated the interpretation. The floor in Trench 1 and wall **133** in Trench 3 were made from the same handmade bricks, which date from the sixteenth to eighteenth centuries. However, the structures in Trench 5 were constructed of wire-cut nineteenth-century engineering bricks. Notably, some of the earlier bricks were reused in these structures, but only nineteenth-century bricks were used in the interior south-west- and south-east-facing elevations of wall **153**. It seems reasonable, therefore, that at least two phases of construction were represented in the archaeology recorded. The structures in Trench 5 must relate to the nineteenth-century enclosure depicted in the 1876 OS map (Plate 9), reusing elements and building materials from earlier structures. However, the floor in Trench 1 and wall **133** in Trench 3 appear to be a survival of either the seventeenth- or eighteenth-century phases of construction at the site, as depicted in the historical landscapes of the estate (Plates 1-6). Due to the nature of excavation, it was not possible to examine the different

phases of buildings closely or assess how much of the seventeenth-century structures were incorporated into the eighteenth-century alterations.

- 6.2.3 Much of what was located in the excavations from these earlier phases must have been visible prior to, or disturbed by, the later landscaping of the area. Finds dating from the nineteenth and early twentieth centuries were located directly above each of these structures. It is therefore clear that all the material assemblage recovered from the site related to the demolition or levelling of these buildings.
- 6.2.4 **Original landform and early twentieth-century levelling:** the vast majority of the deposits excavated during the works were deposited in a single event. The results demonstrate that the original naturally sloping ground had been built up to produce a level surface. The profile of the land from the pathway to the east of the excavation area to the west would have sloped downwards prior to the early twentieth century, as it still does to the south. The construction cut of wall **I53** (Trench 5), although not visible, would have been cut back into this slope. Similarly, the construction cut of wall **I33** (Trench 3) had been cut into the slope, and it seems quite likely that the original landform also fell from the north. The original buildings, following this model, would have been partially sunken, as viewed from the north, opening onto the ground to the south. The alternative of fully cellared buildings can probably be ruled out, as if this were the case, the cellars would have had to be extensive to account for the area of levelling deposits used to fill them. None of the seventeenth- or eighteenth-century images of the site (Plates 1-6) depict this sloping ground, even though part of it is still in existence today to the south of the area investigated. A level of artistic licence must therefore be allowed for in these images. On the 1876 OS map of that area (Plate 9), a route from the main path leading down to the western corner of the late nineteenth-century enclosure is marked. This presumably avoided the drop in height that must have existed between the path and the interior of the enclosure at its eastern end.
- 6.2.5 The finds indicate a late nineteenth- or early twentieth-century date for this activity. This accords well with the historical data. Much work was done to modernise the property with the return of the ninth Earl of Stamford, Harry Grey, in 1906, after the property had been abandoned by the eighth Earl (George Harry Grey), after his marriage to his second wife in 1855 (Woodside 2000, 22-4). This was the first modernisation of the property since the 1820s, and altered the house from a nineteenth-century residence to a more modern house (*ibid*). It seems to have been at this time that the area under investigation was levelled up to create ground of the same height as that found directly in front of the stable block.
- 6.2.6 These levelling deposits were very mixed, containing much demolition debris, including fragments of sandstone, brick, and roof slates. They were also very rich in finds, the bulk of which was pottery. This assemblage includes refined white earthenwares, in the main comprising plates, saucers and dishes. Two, possibly three, of these have the Grey family crest on them, whilst a fourth plate has a solitary 'S' upon it, presumably for the Earl of Stamford. Stoneware storage vessels, which made up a significant portion of the assemblage, included various-sized jars, some of which were inscribed with

'Hartley', which may date them from 1898 onwards (*Section 4.7.8*). Also incorporated in the levelling deposits were significant amounts of building debris, including lime mortar, red brick fragments, and slate and sandstone roof tiles. It seems likely that, rather than being demolition debris from the buildings under investigation, this material derived from other buildings or structures on the estate, which were being demolished. It was notable that, despite the quantity of brick fragments, whole bricks were rare within these deposits, presumably because they were reused elsewhere on the estate.

- 6.2.7 **Geophysical survey:** the survey has highlighted a number of anomalies which probably pertain to features shown on cartographic sources. Of particular note are the anomalies such as **R1** and **R2** (Fig 14), which are visible as raised lines on the ground. The rectangular anomalies in the southern part of **R1** are possibly related to the buried foundations of the pheasantry. The area of low resistance to the west of this is probably a result of the ground being made up to accommodate the enclosure visible on the OS maps. There is a slope to the west of the flat area, which is illustrated on both the 1876 and 1898 OS maps.
- 6.2.8 The western side of the site is uneven and there are areas of high resistance which correspond to these. There is a possibility that these are a result of demolition rubble being spread over the site, although they may equally be of geological origin.
- 6.2.9 Paths illustrated on the historical OS maps coincide with the locations of anomalies labelled **R2** (Fig 14), and it is probably safe to assume that these anomalies indicate the survival of the paths below ground.

6.3 IMPACT OF POTENTIAL GROUND WORKS ON THE ARCHAEOLOGY

- 6.3.1 It is evident that over much of the area investigated the structures shown on seventeenth- and eighteenth-century sources are at some depth. It is only to the east, adjacent to the footpath and in the vicinity of Trench 5, where the archaeology is at a depth that may be impacted upon by relatively shallow groundworks. It was noted that, during the excavation, tree roots in Trenches 1, 2 and 3 did not penetrate to a depth below that of the early twentieth-century levelling of the site. There is therefore only a limited risk from potential groundworks involved with the removal of the trees which are disturbing the archaeological remains in these areas, unless the depth of excavation should exceed 0.89m, the level at which the upper course of bricks in Trench 3 was encountered.

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APPENDIX 1: PROJECT DESIGN

**ARCHAEOLOGICAL
SUPPORT AND
COMMUNITY
TRAINING:**

**DUNHAM MASSEY,
CHESHIRE**

Tender Submission



Oxford Archaeology North

January 2010

1 THE PROJECT

- 1.1 This costed Project Design has been prepared by Oxford Archaeology North in response to an invitation to tender issued by The National Trust, to provide archaeological support and community training services at Dunham Massey, a National Trust property located 3 miles south-west of Altrincham, in the Metropolitan Borough of Trafford (centered on NGR: SJ 73398733). The work will include a combination of field archaeology and site supervision, together with a series of archaeological skills training workshops, and will form part of a proposed HLF-funded community-based project. The excavation and other archaeology-themed events will be contained within Dunham Massey's Old Park, a large area of mature woodland and open grassland that surrounds the main house and estate buildings. The events will focus on an area immediately west of the mid-eighteenth century Carriage House and Stable Range.

2 OXFORD ARCHAEOLOGY NORTH

- 2.1 ***Oxford Archaeology North (OA North):*** OA North, formerly Lancaster University Archaeology Unit, has been serving the archaeological needs of the North West since 1979, and this has included close involvement with amateur groups on projects throughout the region. This latter work has included professional support and also the provision of expertise, training, and resources for archaeological excavation, survey, and documentary studies.
- 2.2 As an educational charity, public education and training are central to the very fibre of the organisation and we have developed an impressive track record in all aspects associated with community training and public presentation as outlined below.
- 2.3 ***Training and Community Archaeology:*** OA North has considerable experience of working with, and providing training to, local communities and amateur groups on archaeological projects. These projects can range from surveys, which incorporate training for the local groups, to major training excavation projects aimed at volunteer groups. The following are some examples of community-based projects undertaken by OA North.
- ***Greenside Lime Kiln:*** the successful excavation and restoration of Greenside Lime Kiln, Kendal combined the leading expertise of OA North with resources from the local community including Young Archaeology Clubs, school children aged 8-15 years and local masons and artists. The result of this project raised awareness of the presence of a listed Ancient Monument and united a community in an appreciation of their heritage. The site is now an attractively furnished, functional recreation space including educational information panels and benches, which enhance the appreciation of the stunning vista of Kendal Castle and the countryside beyond.
 - ***Old Dock Liverpool:*** OA North have been responsible for the excavation of the Old Dock in Liverpool and delivering the final museum design and fit

out. The Old Dock is now showcased in a unique and exceptional subterranean space beneath the Liverpool One Development. This underground museum houses a fully excavated section of the UK's first Commercial Wet Dock constructed in 1715, as well as artefacts and high-quality exhibition panels and multimedia images of the excavation process. The excavation was filmed by Time Team for a special documentary and was recently nominated for the UK Rescue Excavation of the Year Award

- **Ingleton:** OA North, in conjunction with the Ingleborough Archaeology Group, undertook excavation and survey of a Roman settlement at Ingleton, North Yorkshire. During this investigation OA North offered training and supervision for upward of a core of 10 people, and more general training for 30 people from the local area. This allowed for an intensive archaeological investigation, which culminated in a high-profile excavation of this complex Roman settlement.



Geophysical survey and surveying as part of a community-based project

- **Skipwith Common:** OA North is presently working with the Friends of Skipwith Common, to undertake a survey of Skipwith Common, to the south of York. The work is funded by Natural England.
- **Muncaster Fell:** OA North undertook a survey of Muncaster Fell, West Cumbria, and an integral part of this work included training members of the Eskdale Local History Society in techniques of archaeological survey. Following the field survey a publication was produced detailing the results of the work.
- **Duddon Valley Cairn:** OA North, in conjunction with the Lake District National Park Authority, undertook a community-training project involving the excavation and survey of two ring cairns at Duddon Valley, Cumbria.
- **St Catherine's Park:** OA North completed a survey of St Catherine's Park, Windermere, on behalf of The National Trust, which involved the training

and supervision of a group of local volunteers in the techniques of landscape survey and also documentary research.

- **Lathom House:** OA North undertook an archaeological and historical at Lathom Park, Lancashire, in conjunction with the Lathom Trust. This project involved training members of the community to undertake documentary research and building survey. OA North is presently undertaking a follow-on project evaluating and excavating the site of the former Lathom House fortified palace.
- **Holcombe Moor:** OA North undertook a community project surveying Holcombe Moor, South Lancashire, which was funded by the Ministry of Defence. The project was extremely successful and, in consequence, it won an MOD award.



Survey training in action

- 2.4 **Design and Illustration:** OA North's design and illustration team has significant experience in the presentation of archaeological information to the public. A standard element of many OA North projects is the preparation of interpretative material outlining archaeological techniques, project background, and the results of archaeological fieldwork. A series of examples are presented in *Appendix 1*.
- 2.5 **Working with children:** as an educational charity, training and education are central to OA North, and the organisation has significant experience of working with children in a variety of situations. Of particular relevance to this project is the design and preparation of teacher's packs on Medieval Carlisle, undertaken for Tullie House Museum, Carlisle, and the Liverpool Docks for the Liverpool One development's museum.

2.6 **Relevant experience:** the proposed project team has both considerable experience and enthusiasm for community training projects. At present, while none of the team have current CRB checks we are more than willing to submit the relevant information prior to the commencement of the project.

- **Jamie Quatermaine, Project Manager:** Jamie is a highly experienced archaeological Project Manager, with a significant track record in training and community archaeological projects. His role will be to ensure that the aims and targets of the project are met.
- **Andrew Bates, Project Officer:** Andrew is a passionate and dedicated archaeologist with significant experience in running community-training excavations. Andrew recently undertook the community project at Lathom, which integrated hand excavation with geophysics and on-site finds processing.
- **Alastair Vannan, Project Supervisor:** Alastair is a committed and enthusiastic archaeologist, who undertook the community excavations at Duddon Valley Cairn in association with the Lake District National Park. Alastair will assist Andy in the running of the training excavation.
- **Kelly Clapperton, Project Supervisor:** is a highly experienced archaeologist who has undertaken numerous commercial projects, but has always maintained a keen interest in community projects. Kelly will assist Andrew in the running of the training excavation.
- **David Marron, Archaeologist:** David is a former teacher and headmaster with 27 years of teaching experience. In addition, he currently specialises in finds and sample processing. David will conduct the on-site finds processing and handling, as well as providing additional expertise in working with children.
- **Karl Taylor, Project Officer:** is highly experienced geophysical surveyor, who has conducted geophysical survey in both Britain and abroad. He has extensive experience in a range of geophysical instruments and also extensive experience of geophysical survey software. Karl will conduct the geophysical survey.
- **Marie Rowland, Illustrator:** Marie is an experienced illustrator and will help to design and prepare the information for the presentation, workshops, and information boards. In addition, she is a trained Outreach Officer and will provide expertise on the best way to conduct the on-site training.
- **Adam Parsons, Illustrator:** Adam is also a highly experienced illustrator and will help Marie with design and presentation. In addition, Adam is also an enthusiastic participant in various re-enactments and regularly demonstrates ancient manufacturing techniques. Again, it is proposed that Adam will provide guidance on the best way to enthuse the volunteers.
- **Elizabeth Huckerby, Palaeoenvironmental Manager:** Elizabeth is a highly experienced palaeoenvironmentalist who will oversee the processing and sorting of any samples recovered from the site, as well as any necessary analyses.

- **Chris Howard-Davis, Finds Manager:** Chris is a very respected finds specialist who is able to provide detailed comment on the majority of categories of finds recovered from Northern Britain. Chris will oversee any finds analysis and provide comment where appropriate.
- **Jeremy Bates, Pottery Specialist:** Jeremy will provide detailed analysis on any post-medieval pottery recovered from the excavations.
- **Rachel Newman, Senior Executive: Research and Publications:** Rachel oversees all post-excavation and research undertaken by the office and a particular area of responsibility is quality management. She is the series editor for the *Lancaster Imprints*, which publishes the majority of monographs, and oversees all other publications from the office.

3 PROJECT BACKGROUND

3.1 INTRODUCTION

- 3.1.1 The project, in line with The National Trust brief, will focus on the site of multi-phased post-medieval buildings located in the grounds of Dunham Massey, and also a former building located to the north-west. Both sites are situated within the Old Park, which is a Grade II* Registered Park and Garden (GD 1849). This area also falls within the Dunham Massey Site of Special scientific Interest (SSSI).

3.2 ARCHAEOLOGICAL BACKGROUND

- 3.2.1 The multi-phased buildings first appear on Van Diest's 1696 painting of Dunham Massey and it is possible that this seventeenth-century building functioned as a dairy or stable. This building, and a number of additional buildings, is also visible on Kip and Knyff's 1697 engraving and Harris's 1751 paintings showing this area. The later cartographic sources suggest that these buildings were demolished between 1829 and 1839. The cartographic sources also indicate that the building to the north-west represents a former pheasantry building.
- 3.2.2 An archaeological excavation at the site of the dairy or stable in 2009, by members of SMART and National Trust volunteers, revealed *in situ* archaeology associated with this building. This included *in situ* eighteenth-century handmade brick foundations, cinder floor layers and demolition rubble. An abundance of pottery, glass and metal work was also recovered from the small evaluation.

4 THE ARCHAEOLOGICAL PROGRAMME

4.1 THE PROPOSED ARCHAEOLOGICAL PROGRAMME

- 4.1.1 The archaeological programme will involve, and train, local participants, will be witnessed by visitors to Dunham Massey, and will form the centrepiece of an archaeological event in late July as part of the CBA sponsored Festival of British Archaeology. During the duration of the fieldwork interactive archaeological events will be offered and interpretative material will be displayed outlining

archaeological techniques and also information relating to the archaeology being investigated. In addition, prior to the project a set of archaeological skills training workshops will also be undertaken, whilst at the end of the project a presentation outlining the results of the project will be held at a local venue. Following the completion of the fieldwork, a full site report and archive will be produced, along with a popular publication.

4.2 ARCHAEOLOGICAL SKILLS WORKSHOPS

4.2.1 Prior to the on-site work, OA North will design and deliver four archaeological skills workshops either on two consecutive Saturdays or two consecutive weekdays, depending on the project participants availability. OA North will provide all necessary tools and visual aids for the workshops, which will cover: excavation and site recording; geophysical survey; finds processing; and documentary research and map analysis. In line with The National Trust project brief, these workshops will be aimed at the novice and will allow the project participants to meet and liaise, and also become familiar with the archaeological techniques they will be using during the course of the project.

4.3 ARCHAEOLOGICAL EXCAVATION

4.3.1 OA North will undertake an archaeological excavation at the site of the seventeenth-century multi-phased building, which will directly involve up to 10 volunteers per day with ranging levels of archaeological experience. These volunteers may also include participants who might have physical limitations. One of the primary aims of this excavation will be to guide, encourage, train, and nurture the volunteers in the techniques of archaeological excavation, and a particular emphasis will be placed on the quality of experience for those taking part. The techniques that participants will engage in will include excavation and all aspects of site recording. It is also anticipated that those more experienced and qualified volunteers, who would like to take on a greater degree of responsibility, can act as 'site supervisors' if they wish.

4.3.2 Over the course of the fieldwork OA North will also engage with any casual visitors to the site, and will deliver two site tours daily. In addition, when required, provisions will be made to allow c one hour duration site tours for invited local groups with a range of abilities and interests. Provision will also be made for participation by two local Young Archaeologists Clubs.

4.3.3 **Excavation Methodology:** The fieldwork will entail the excavation of an open-area trench across the site of the former seventeenth-century building. The size of this trench will be determined once the number of participants taking part in the excavation has been established. Initially, turf will be removed by hand and this, along with topsoil, will be stored at an appropriate location, ready for reinstatement on completion of the excavation.

4.3.4 The excavation will use a variety of techniques, from rapid cleaning to delicate excavation, to suit differing conditions. The aim of this work will be to explore all features stratigraphically and to produce a clear plan of the complex. Detailed

excavation will be targeted in areas of identified archaeological features, and suitable deposits encountered during the excavation will be sampled according to the appropriate professional standards.

- 4.3.5 All elements of the work will, as a matter of course, be recorded in accordance with current English Heritage guidelines (*MAP 2*) and the best practices formulated by English Heritage's Centre for Archaeology (CfA). Where practicable recording will be by Group members under the supervision of OA North staff.
- 4.3.6 Archaeological planning will be by a combination of instrument and manual survey. Within the trenches all features will be manually excavated, but the location of the trenches will be surveyed using a total station and the data will be digitally incorporated into a CAD system during the excavation. The drawings will be generated at an accuracy appropriate for 1:20 scale but can be output at any scale required. Three-dimensional recording of selected finds' classes will be undertaken using a total station, should the site warrant this treatment. Section drawings will for the most part be generated manually.
- 4.3.7 Archaeological features will be recorded using *pro-forma* sheets which are in accordance with those used by CfA. Similar object record and photographic record *pro-formas* will be used. All written recording of survey data, contexts, artefacts and ecofacts will be cross referencable from *pro-forma* record sheets using sequential numbering.
- 4.3.8 A full and detailed photographic record of individual contexts will be maintained and similarly general views from standard view points of the overall site at all stages of the excavation will be generated. Photography will be undertaken using 35mm cameras on colour transparency and digital photography will also be employed. Photograph records will be maintained on special photographic *pro-forma* sheets.
- 4.3.9 If appropriate, a programme of palaeoenvironmental sampling will be undertaken at the site under the guidance of the OA North palaeoenvironmental specialist. Any appropriate contexts will be sampled, subject to palaeoenvironmental survival, and an assessment of the samples will be undertaken.

4.4 ON-SITE FINDS PROCESSING AND HANDLING

- 4.4.1 Finds recovery and sampling programmes will be in accordance with best practice (current IFA guidelines). All material will be collected and identified by stratigraphic unit. The location of findspots for objects deemed to be of potential significance to the understanding, interpretation and dating of individual features, or of the site as a whole, will be recorded in 3-D. All finds will be treated in accordance with OA North standard practice, which is cognisant of IFA and UKIC Guidelines.
- 4.4.2 All basic finds identification and processing will undertaken on-site during the duration of the excavation in order to allow participants direct engagement with

aspects of finds processing and identification. It is also anticipated that on-site finds processing will provide opportunities for finds handling for any interested visitors to Dunham Massey.

- 4.4.3 OA North will provide all relevant equipment in order to facilitate on-site finds processing and handling, along with an appropriate shelter in which to undertake these activities.

4.6 GEOPHYSICAL Survey

- 4.6.1 During the duration of the excavation OA North will also undertake a geophysical survey over the site of the former pheasantry building, located to the north-west of the seventeenth-century stable/dairy. The primary aim of this survey will be to train and instruct project participants in the techniques of geophysical survey, and also allow visitors to Dunham Massey to see the equipment in use. OA North has a suitably qualified geophysical surveyor and will supply all relevant equipment.

- 4.6.2 It is proposed to undertake and process two types of geophysical survey, resistivity and magnetometry, on the pheasantry building on a daily basis. The survey will comprise two daily sessions, one in the morning and one in the afternoon. In addition, the survey grid will be re-established in the morning and afternoon. All of the work and training will be undertaken by OA North's geophysical specialist Karl Taylor.

- 4.6.3 Given the nature of magnetometry, the work cannot be undertaken by anyone with metal on his or her clothes. Therefore, magnetometry, while available for the duration of the project will only be undertaken by arrangement with volunteers who have been forewarned.

- 4.6.4 Specifically, resistivity measures the relative inability of soils to conduct an electrical current which is passed through them. Hard dense features like stone give a high resistivity response, while features such as a ditch retain moisture and give a relatively low response. The survey will be undertaken using a RM15 manufactured by Geoscan Research incorporating a Twin Probe Array. The twin probes are separated by 0.5m and the associated remote probes are positioned approximately 15m outside the grid.

- 4.6.5 Magnetometry works by measuring differences in the magnetic field resulting from differing features in the soil and can be used to identify hearths, as well as locating pits and ditches. It is proposed to carry out the survey using a FM36 Fluxgate Gradiometer, manufactured by Geoscan Research.

4.7 ON-SITE INTERPRETATION

- 4.7.1 During the duration of the fieldwork OA North will produce a series of laminated display boards in order to provide visitors to the site information regarding the background and findings of the archaeological project, and also more general

information on archaeological techniques. During the production of this interpretative material OA North will consult with National Trust staff to ensure internal National Trust guidelines for interpretation and presentation are followed.

4.8 END OF PROJECT PRESENTATION

- 4.8.1 At the end of the project OA North will design and deliver a PowerPoint presentation on the project at a local venue. This presentation will cover all aspects of the fieldwork and post-excavation work.

4.9 POST-EXCAVATION WORK, ARCHIVE PRODUCTION AND REPORTING

- 4.9.1 An archive for the project will be prepared during and immediately following the fieldwork programme for deposition in an appropriate repository. The results of the excavation will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly quantified, ordered, and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the Institute of Field Archaeologists in that organisation's Code of Conduct. The project archive will be deposited with The National Trust at the end of the project.
- 4.9.2 An appropriate programme of analysis will be undertaken to prepare a research archive, as detailed in Appendix 6 of *Management of Archaeological Projects (English Heritage 1991)*. A provisional programme of post-excavation analysis is proposed, on the basis of the anticipated recovery of material from the excavation; however, the extent of the programme can only be reliably assessed on completion of the fieldwork. The proposed programme anticipates analysis of the artefactual evidence and of the site stratigraphy, and may also involve palaeoenvironmental assessment, leading to the production of a final report. It is not anticipated that radiocarbon dates will be required and these have not been costed. This will present, summarise, and interpret the results of the programme and will incorporate specialist reports on artefact assemblages and environmental reports. It will include an index of archaeological features identified in the course of the project, with an assessment of the site's development. It will incorporate appropriate illustrations, including copies of the site plans and section drawings all reduced to an appropriate scale. The report will consist of a statement of acknowledgements, lists of contents, executive summary, introduction summarising the brief and project design, methodology, interpretative account of the site and associated structures, gazetteer of features, a complete bibliography of sources from which data has been derived, and a list of further sources identified during the programme of work.
- 4.9.3 In accordance with The National Trust brief ten 10 bound paper copies of the full excavation report will be supplied to The National Trust, along with ten complete

digital copies of the full excavation report on CD. The digital report will appear as a locked PDF format and as a Word file suitable for uploading to the NTSMR. Copies of any digital survey information will be supplied in a CAD compatible format as a dwg.file and as a tab.file compatible with MapInfo Version 6. Copies of all digital photographic files will also be supplied as individual J.pgs.

- 4.9.4 In addition to the excavation report, OA North will also produce a short 'popular publication' for distribution to the participants in the project, which will comprise an illustrated non-technical summary detailing the results of the archaeological investigation. This publication will run to fifty copies, along with twenty complete digital copies on CD.

4.10 OTHER MATTERS

- 4.10.1 **Timetable:** it is anticipated that the archaeological skills workshops will be held in early July, prior to the commencement of the fieldwork. Site set up and deturfing is scheduled for the 19th July, whilst excavation, on-site finds processing work and geophysical survey will run from the 20th July and the 29th July 2010 inclusive. Trench re-instatement and the removal of site equipment will take place on the 30th July.
- 4.10.2 Post-excavation analysis will be undertaken immediately following the completion of the fieldwork and the production of the report and popular publication will be completed by the beginning of October 2010. The end of project presentation will also be delivered in October 2010.
- 4.10.3 **Health and Safety:** full regard will, of course, be given to all constraints during the excavation, as well as to all Health and Safety considerations. The health and safety policy will be in accordance with the OA North Health and Safety Statement, which conforms to all the provisions of the SCAUM (Standing Conference of Unit Managers) Health and Safety manual, as well as the Oxford Archaeology Health and Safety Statement. A full risk assessment will be undertaken and this will be supplied to all OA North staff and volunteers involved in the fieldwork. Separate risk assessments will be produced for all activities that involve working with volunteers, community groups and the general public including children and young people. In addition, at least one member of the team will be proposed for a CRB check. OA North will also undertake a site induction for all volunteers engaged in the proposed fieldwork. The Oxford Archaeology Health and Safety Policy Statement will be provided to the National Trust.
- 4.10.4 The excavation of the trench will not extend to a depth of greater than 1.25m without being stepped in by at least one metre in order to satisfy health and safety guidelines for unshored sections. There is no provision for shoring within the present proposals, although the need for it is not anticipated. OA North will also undertake to perform a service search to ensure that there are no live services with the excavation area. The excavation area will be fenced with chestnut paling.
- 4.10.5 **Insurance:** Insurance in respect of claims for personal injury to or the death of any person under a contract of service with the IAG and arising out of an in the course of such person's employment shall comply with the employers' liability

(Compulsory Insurance) Act 1969 and any statutory orders made there under. For all other claims to cover the liability of IAG in respect of personal injury or damage to property by negligence of IAG or any members of the Group, there applies insurance cover of £ 3m for any one occurrence or series of occurrences arising out of one event.

APPENDIX 2: CONTEXT INDEX

Context No	Trial Trench No	Depth (m)	Category	Description
100	-	0.16	Layer	Topsoil. A very dark grey, firm sandy silt.
101	3	0.23	Layer	Same as <i>115</i> .
102	3	0.23	Layer	Same as <i>115</i> .
103	3	0.23	Layer	Same as <i>115</i> .
104	3	0.40	Layer	Early twentieth-century levelling. A dark grey, loose, coarse sand with frequent angular stones and fragmented red brick.
105	1	0.17	Layer	Early twentieth-century levelling. A mid-light orangey brown, firm, sandy silt.
106	1	0.17	Layer	Early twentieth-century levelling. A mid-orangey brown, firm, clay with occasional brick fragments.
107	1	0.32	Layer	Early twentieth-century levelling. A dark grey, loose, sandy silt with abundant fragmented brick, sandstone and roof slate inclusions.
108	1	0.70	Layer	Early twentieth-century levelling. A mixed deposit of mottled mid-orangey brown, grey, and very dark grey, loose, sandy silt, with abundant fragmented brick, angular sandstone and roof slate inclusions.
109	-	-	-	Not used.
110	-	-	-	Not used.
111	2	0.15	Layer	Early twentieth-century levelling. A dark purplish brown, loose coarse cinder deposit.
112	2	0.45	Layer	Early twentieth-century levelling. A mid-dark grey, friable, sandy deposit with frequent angular small stone inclusions.
113	2	0.60	Layer	Early twentieth-century levelling. A mid-grey, loose, coarse sand with abundant fragmented roof slate, brick and sandstone inclusions.
114	-	-	-	Not used.
115	3	0.23	Layer	Early twentieth-century levelling. A dark grey, friable, coarse sandy silty clay, with frequent fragmented small sandstone, roof slate and red brick inclusions.
116	3	0.40	Layer	Early twentieth-century levelling. A light grey, loose, coarse sand with frequent angular small to medium-sized sandstone and fragmented red brick inclusions.
117	3	0.38	Layer	Early twentieth-century levelling. A mid grey, loose, coarse sand with abundant small to medium-sized sandstone and frequent fragmented red brick inclusions.
118	1	0.16	Layer	Early twentieth-century levelling. A light grey, friable, coarse sand with frequent sub-angular stone and fragmented red-brick inclusions.
119	2	0.12	Layer	Same as <i>100</i> .
120	1	0.30	Layer	Buried soil horizon. A very dark grey, fine sand, silty clay.
121	1	0.20	Layer	Early twentieth-century levelling. A mid- to light yellowish orange, loose, coarse sand, with abundant fragmented red brick fragments and light grey lime mortar inclusions.
122	3	0.10	Layer	Early twentieth-century levelling. A dark grey orange, loose, medium sand.

Context No	Trial Trench No	Depth (m)	Category	Description
123	4	Unknown	Layer	Early twentieth-century levelling. A very dark grey, friable, coarse sand and cinder deposit.
124	4	0.30	Layer	Early twentieth-century imported soil. A mixed deposit of dark grey and mid-orangey brown fine sand silt.
125	1	Unknown	Layer	Dark grey coarse sandy silt, with abundant fragmented clinker within its matrix, and occasional mid-orangey grey clay inclusions.
126	2	0.26	Layer	Early twentieth-century levelling. A mid-yellowish brown, firm, very fine sandy clay.
127	2	0.15	Layer	Early twentieth-century levelling. A dark brown grey, firm, silty clay.
128	2	0.20	Layer	Early twentieth-century levelling. A mid-yellowish brown, friable, coarse sand.
129	2	0.15	Layer	Early twentieth-century levelling. A light orangey brown, friable, silty sand.
130	1	0.04	Masonry	Brick floor. Handmade bricks measuring 0.24m by 0.11m by 0.04m in size, bonded by a dark grey medium silty sand.
131	1	0.15	Layer	Disturbed brick floor. A dark grey silty clay with c 20% mid-orangey grey clay inclusions. Included within the deposit were c 20% red bricks, a maximum of 0.20m by 0.12m by 0.065m in size, and c 10% sub-rounded stone, a maximum of 0.11m by 0.10m by 0.08m.
132	3	0.08	Cut	Construction cut for wall 133 . It measured a minimum of 1.25m wide.
133	3	0.56m	Masonry	Red brick foundation and wall. Its base comprised a footing two courses high, measuring 0.13m in depth and 0.50m wide. Upon this, a wall measuring 0.41m in height and 0.35m wide was constructed. The bricks were 0.23m by 0.11m by 0.06m in size, bonded by a light grey sandy lime mortar. All bricks bar the second to last surviving course were laid as stretchers, the exception laid as headers, in the south-east-facing elevation. The footing for this wall was built within construction cut 132 .
134	3	0.08	Fill	Backfill of 132 . Dark grey silty clay.
135	3	-	Layer	Natural clay. A mid-grey orange sandy clay till.
136	-	-	-	Not used.
137	-	-	-	Not used.
138	3	0.20	Layer	Early twentieth-century levelling. A dark grey, firm, medium sandy silty clay.
139	5	0.30	Layer	Topsoil. A mid-dark brown, friable, sandy silt.
140	5	1.34+	Layer	Deposit within the interior corner of a building formed by wall 153 . A very dark grey, friable to loose, fine sandy silt.
141	5	0.48	Layer	Redeposited natural clay. a mid-yellowish brown, firm, clay.
142	5	0.20	Fill	Same as 160 .
143	5	0.28+	Cut	Same as 158 .
144	5	1.36+	Masonry	Same as 153 .
145	2	0.56	Layer	Early twentieth-century levelling. A dark brown grey, loose, coarse deposit of cinder.
146	2	0.05	Layer	Subsoil. A dark brown grey, firm, clayey silt.
147	3	0.19	Layer	A mid-grey, firm, medium sandy clay.

Context No	Trial Trench No	Depth (m)	Category	Description
148	2	0.22	Layer	Early twentieth-century levelling. A mid-reddish brown, friable, coarse sandy clay, with abundant fragmented red brick inclusions.
149	1	0.20	Layer	Early twentieth-century levelling. A light grey, loose, coarse sandy crushed lime mortar.
150	-	-	-	Not used.
151	1	0.54	Layer	Early twentieth-century levelling. A mid- to dark grey, friable, sandy silt, with frequent crushed light grey lime mortar, fragmented roof slate, and fragmented red brick inclusions.
152	3	0.20	Layer	Early twentieth-century levelling. A very dark grey, friable, coarse sandy silt, with frequent fragmented roofing slate, and small to medium-sized angular stone inclusions.
153	5	1.34+	Masonry	Wall forming northern corner of a building. Comprised two types of red brick, one handmade, these measuring 0.24m by 0.11m by 0.065m, and the second wire-cut, measuring 0.22m by 0.105m by 0.075m. The wire-cut bricks all faced the interior elevations. They were bonded by a light grey sandy lime mortar. The bonding pattern was English Garden Wall. The north-east/south-west element of the wall measured 0.22m wide and 0.87m in length within the trench, continuing beyond the southern limit of excavation. The south-east/north-west element of the building measured 0.97m in length within the trench, continuing beyond the eastern limit of excavation, and it was 0.35m wide.
154	5	0.12	Layer	Layer of fragmented red brick. Comprised <i>c</i> 50% red brick, a maximum of 0.22m by 0.105m by 0.075m in size, within a dark brown grey, friable, sandy silt matrix.
155	2	0.10	Layer	Early twentieth-century levelling. A light reddish brown, friable, fine sand.
156	2	Unknown	Layer	Early twentieth-century levelling. A firm mid-pinkish red clay, mixed with a friable mid-brown sandy silt; left unexcavated.
157	5	0.08	Layer	A dark brown, friable, fine sand silt, with occasional mid-yellowish brown clay inclusions.
158	5	0.28+	Cut	Cut measuring at least 0.10m wide and 0.35m in length, continuing beyond the limit of excavation. Not fully excavated.
159	5	0.05	Fill	Fill of 158 . A deposit of light grey, friable, crushed coarse sand lime mortar.
160	5	0.60	Fill	Fill of 158 . A dark brown, friable, fine sandy silt. Redeposited topsoil.
161	5	0.46	Layer	Levelling deposit. A dark brown grey, friable, fine sandy silt.
162	5	0.07	Masonry	Arrangement of four half or two-third bricks, a maximum of 0.16m by 0.10m by 0.07m in size, arranged between wall 153 and masonry 166 .
163	1	0.15	Layer	Early twentieth-century levelling. A mid-grey brown, loose, coarse sandy silt, with frequent angular sandstone, fragmented red brick, and fragmented roofing slate inclusions.

Context No	Trial Trench No	Depth (m)	Category	Description
164	1	Unknown	Layer	A mid-grey orange, firm, clayey medium sand, with rare sub-rounded stone cobbles, a maximum of 70mm by 60mm by 50mm in size. Possibly disturbed natural clay; left unexcavated.
165	2	Unknown	Layer	Early twentieth-century levelling. Deposit of roof slates.
166	5	0.42	Masonry	Comprised wire-cut red bricks, measuring 0.235m by 0.115m by 0.075m, bonded by a light grey sandy lime mortar. Comprised five courses of stretchers and one upper course of headers. The structure measured 0.97m in length, 0.25m wide and 0.42m deep.
167	3	0.45	Fill	Fill of 132 . Redeposited natural clay. A mid-grey orange, firm, fine sandy clay.
168	5	0.075	Pipe	A cast-iron pipe, measuring 75mm (3 inches) in diameter, protruding from the interior elevation of wall 153 at a depth of 0.67m below the upper course of 153 .

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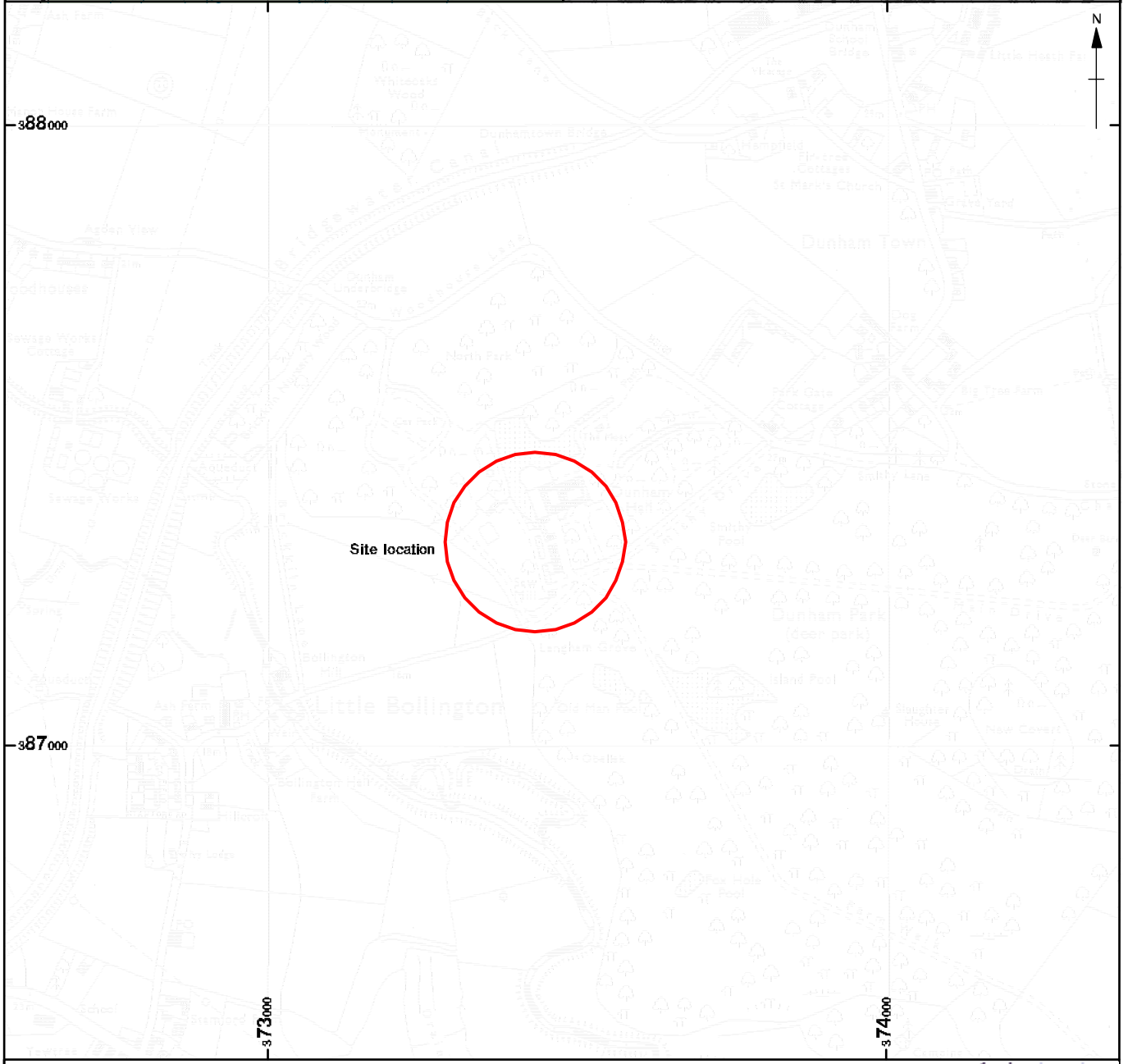
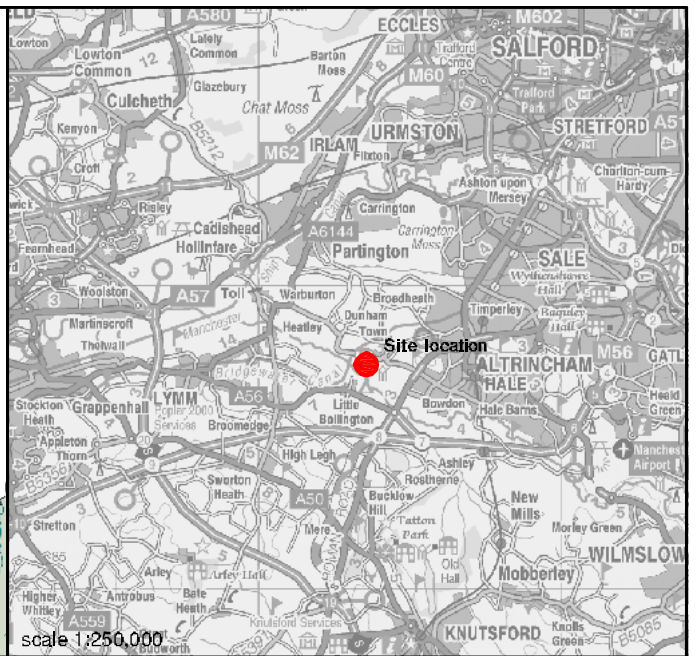
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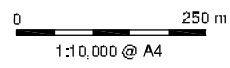


Figure 1: Site location

MC/L10252*AMS*180810

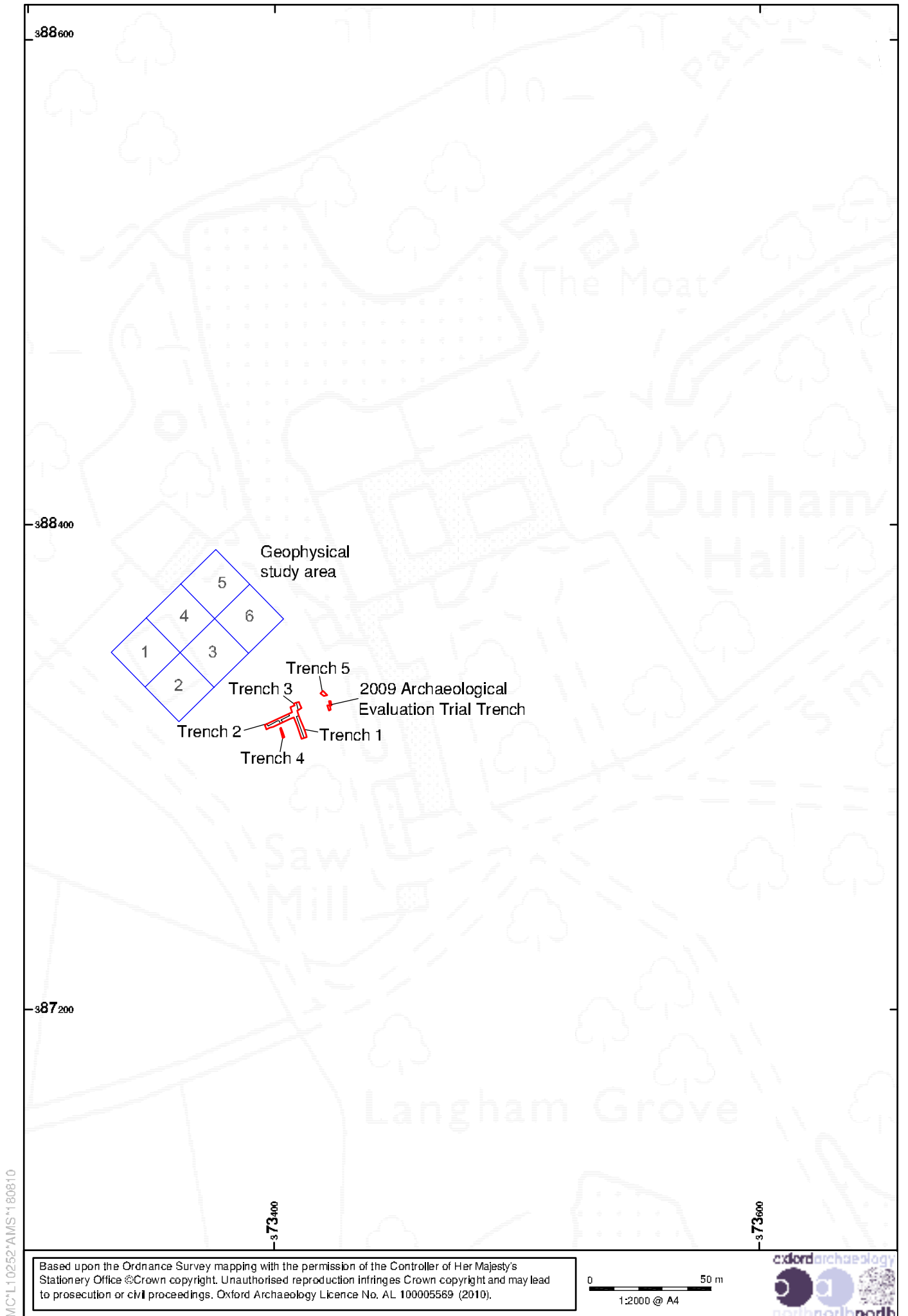


Figure 2: Location of trenches and the geophysical survey area

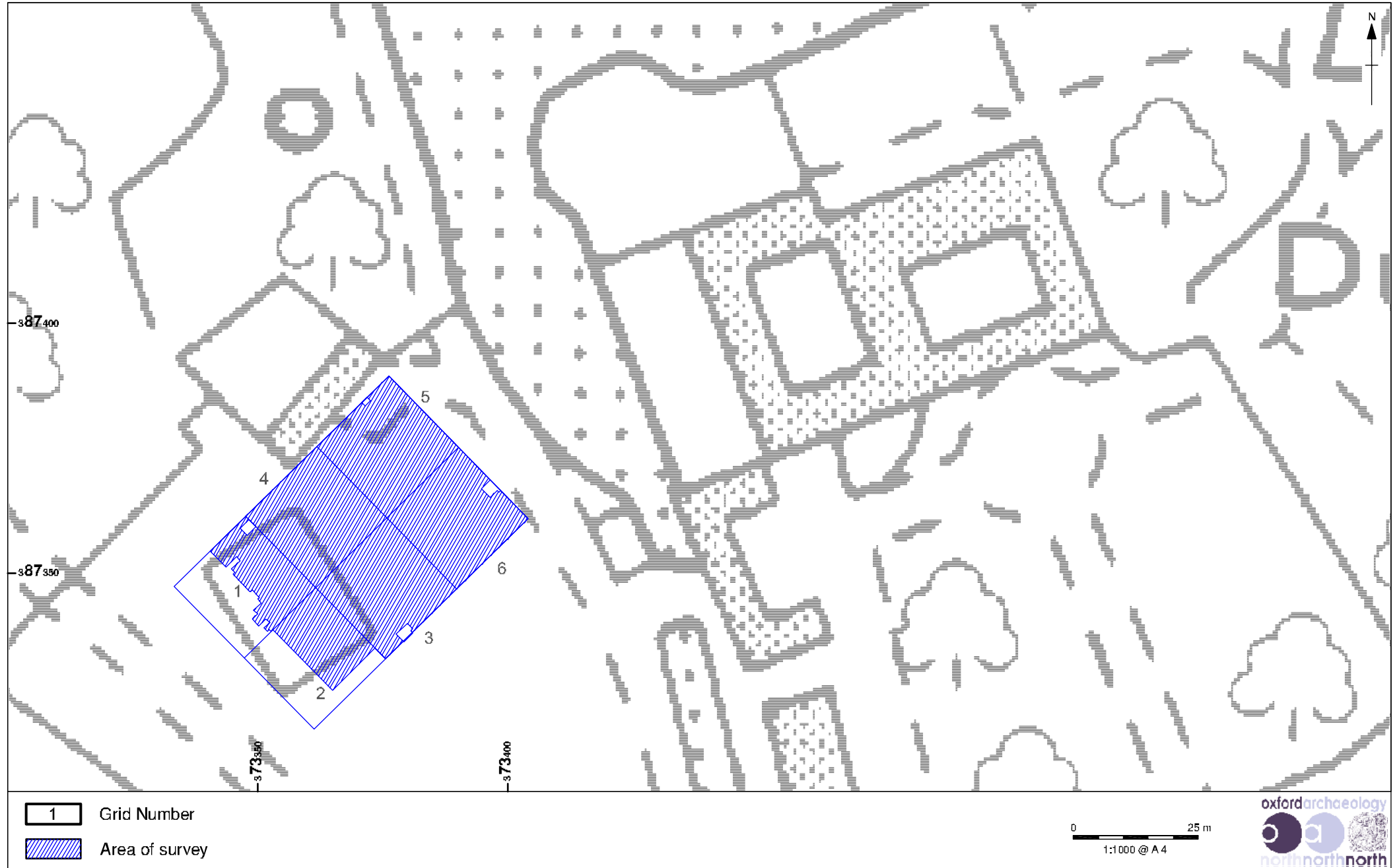
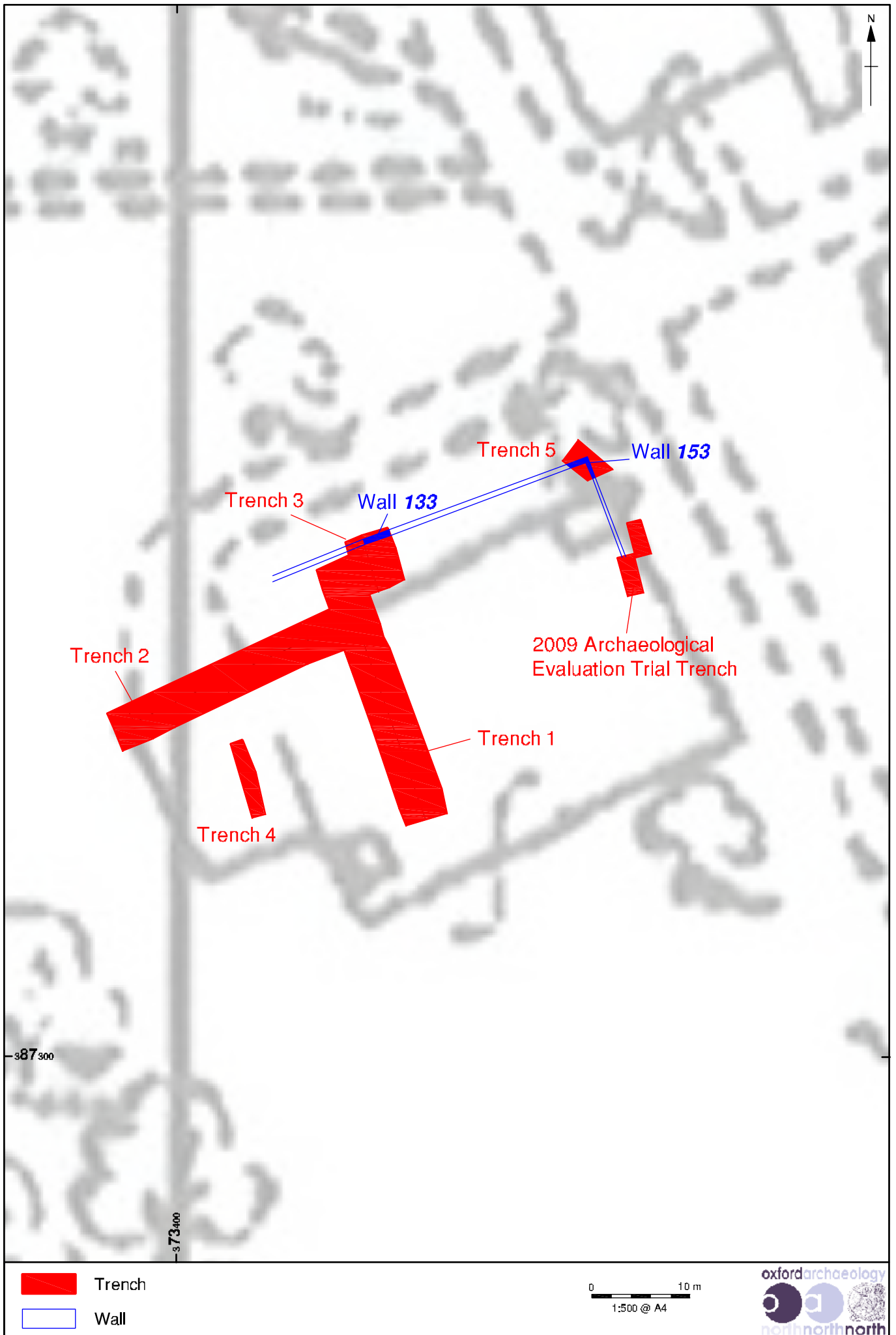
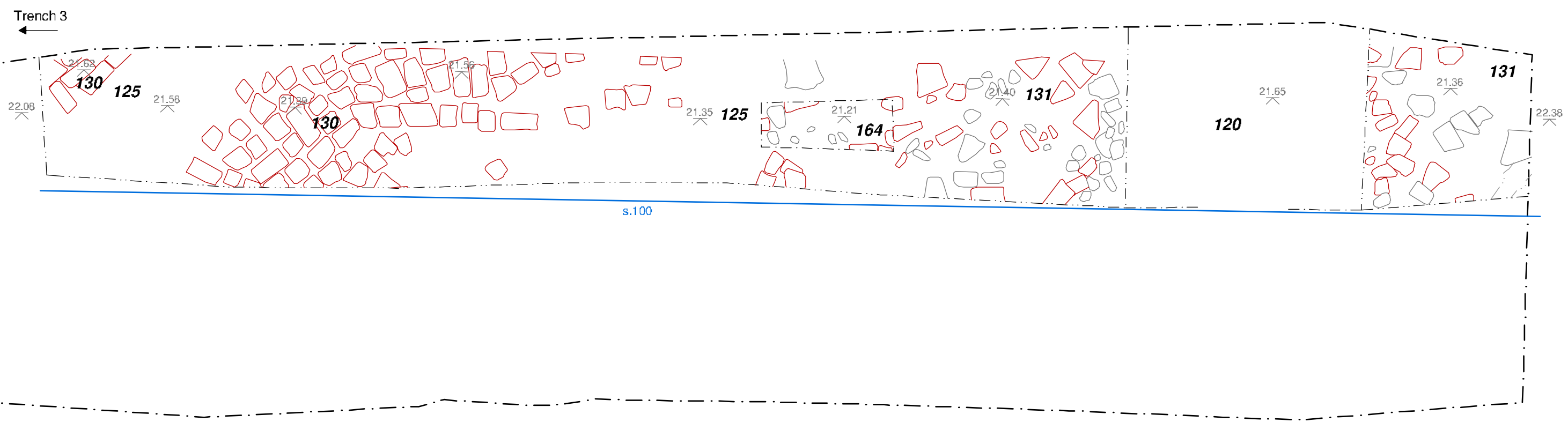


Figure 3: Geophysical Survey Grid



MC*L10252*MEOR*16.09.10

Figure 4: Extract from the 1st edition 1:2500 Ordnance Survey map of 1876, with projected alignment of walls **133** and **153**



MC\110252\AMS*24.08.10

-  Limit of excavation
-  Brick
-  Stone
-  Sondage
-  Section

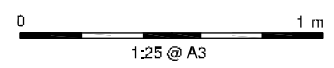


Figure 5: Plan of sondage in Trench 1

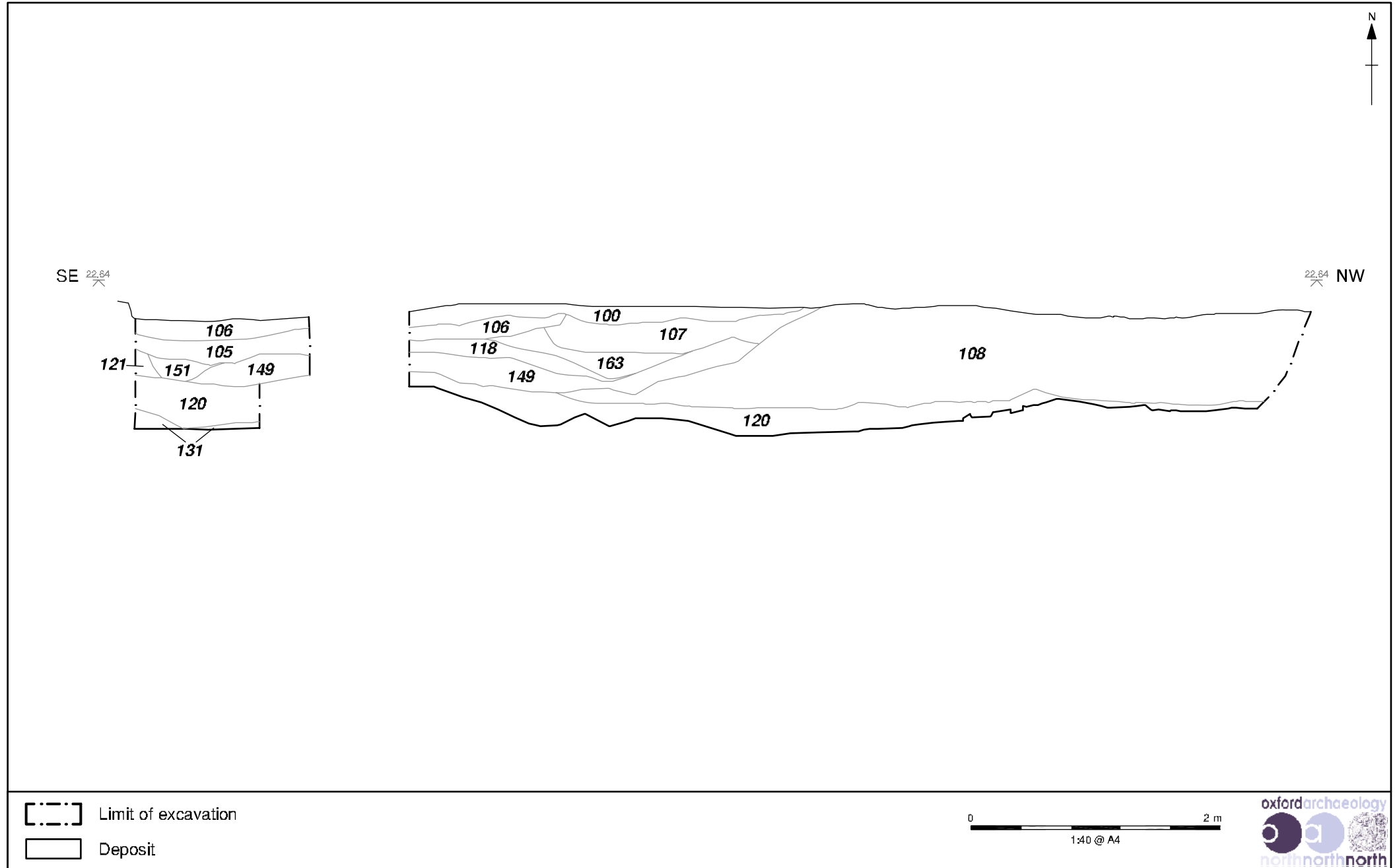
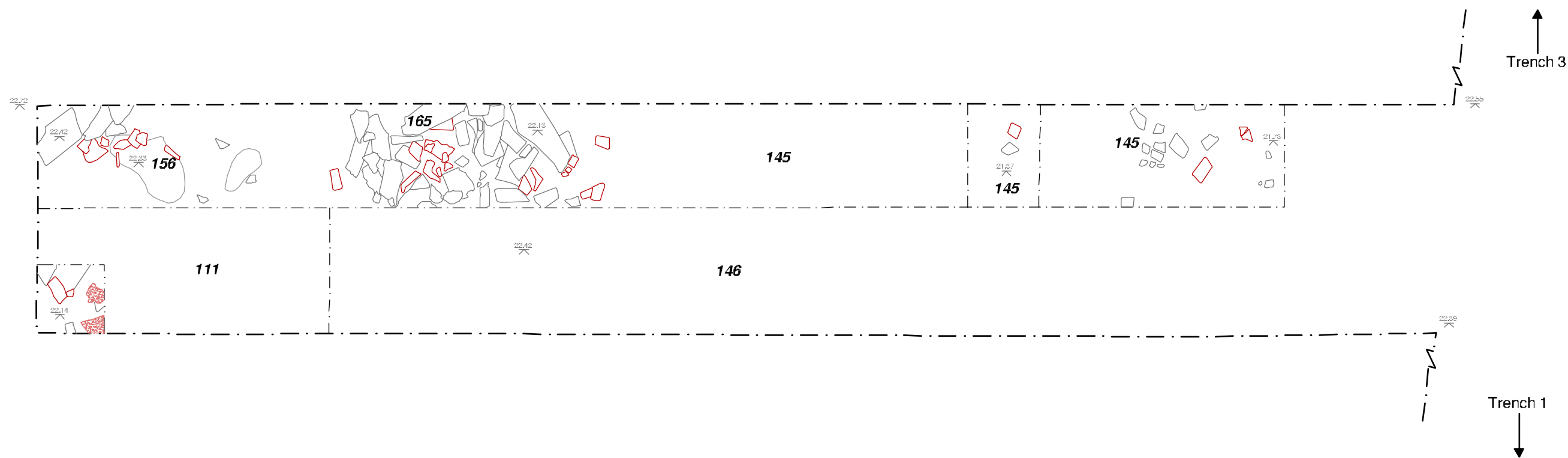




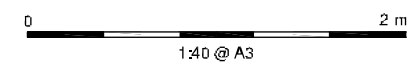


Figure 6: North-east-facing Section 100 of sondage in Trench 1

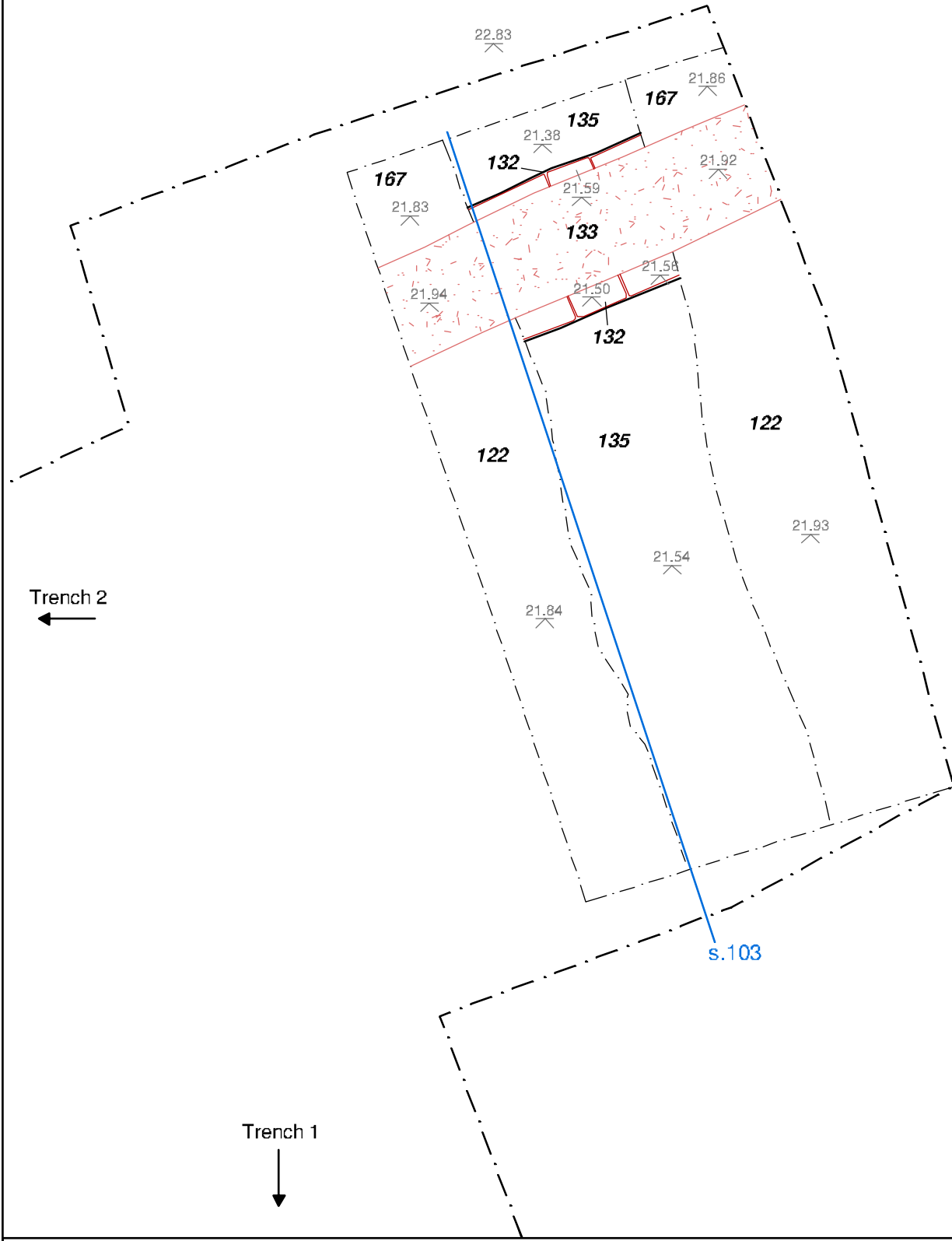






-  Limit of excavation
-  Brick
-  Stone
-  Mortar

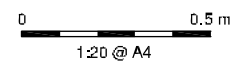


MC/L10252/AMS/24.08.10

Figure 7: Plan of Trench 2

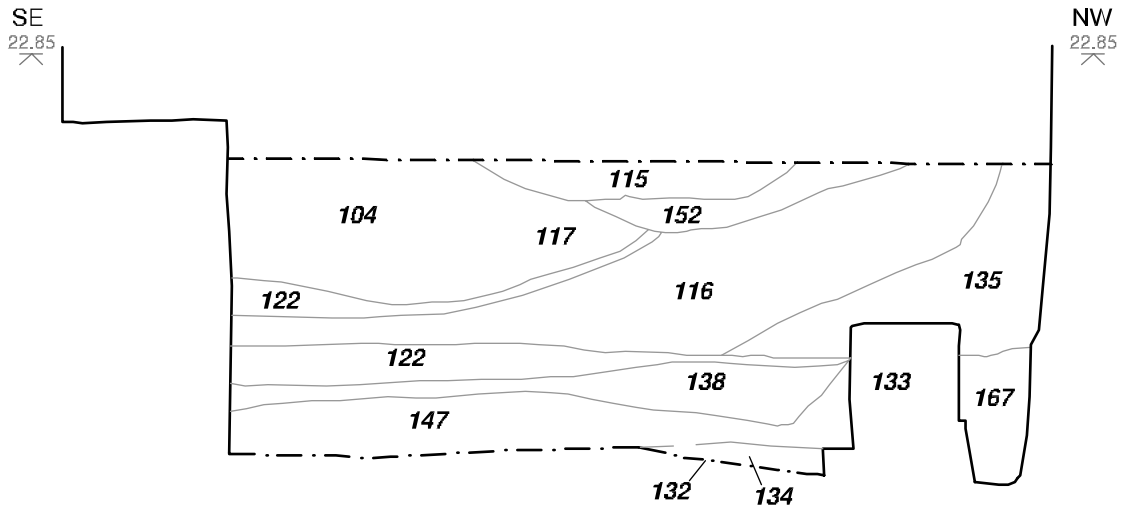


- | | |
|---|---|
|  Limit of excavation |  Section |
|  Brick |  Mortar |






MC*L1 0252*AMS*24.08.10

Figure 8: Plan of Trench 3



MC*L10252*MECR*24,08,10

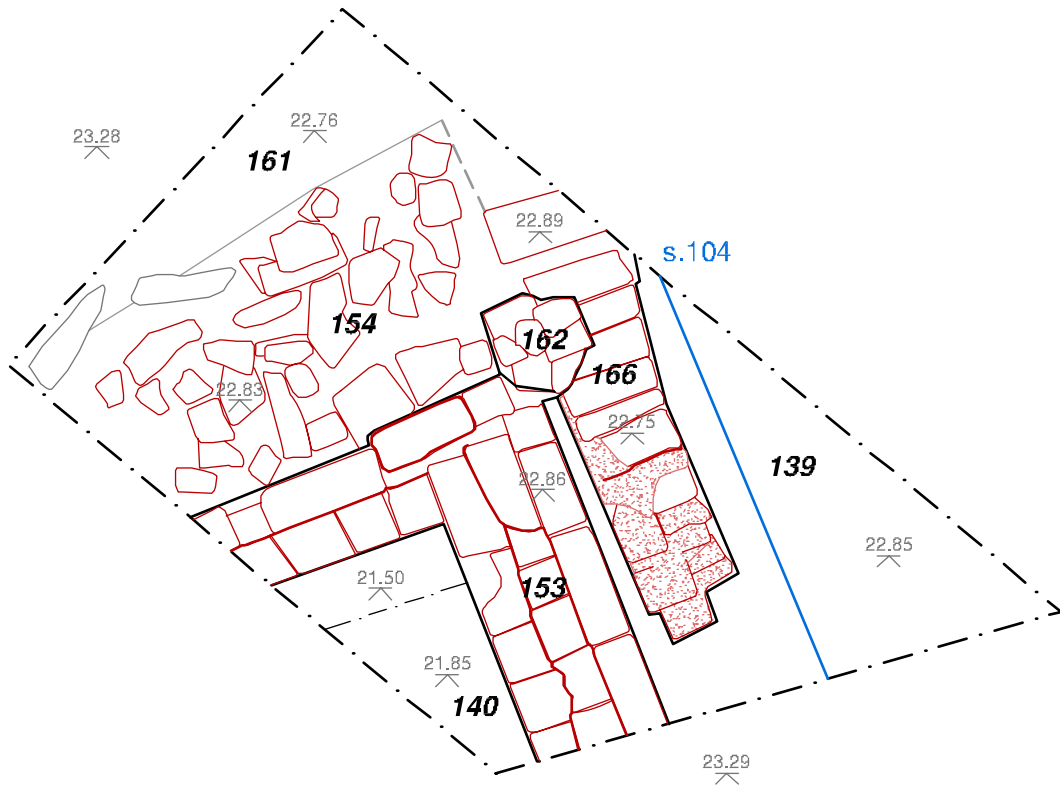
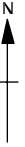
 Limit of excavation
 Deposit




 1:25 @ A4


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 northnorthnorth

Figure 9: North-east-facing Section 103 of sondage in Trench 3



 Limit of excavation
 Brick

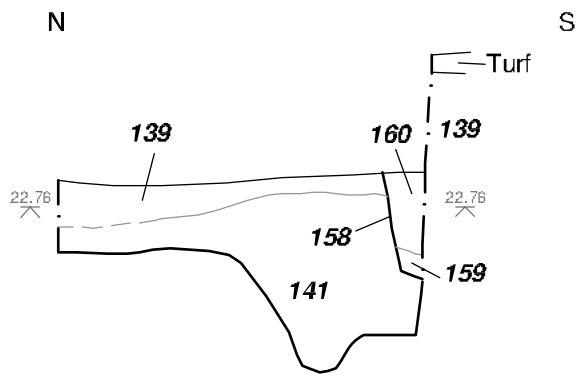
 Stone
 Mortar

 Section



0 0.5 m
1:20 @ A4



Figure 10: Plan of Trench 5



MC*L1 0252*MECR*24.08.10

 Line of excavation
 Deposit

 Uncertain edge



 0 0.5 m
 1:20 @ A4



Figure 11: West-facing Section 104 in Trench 5

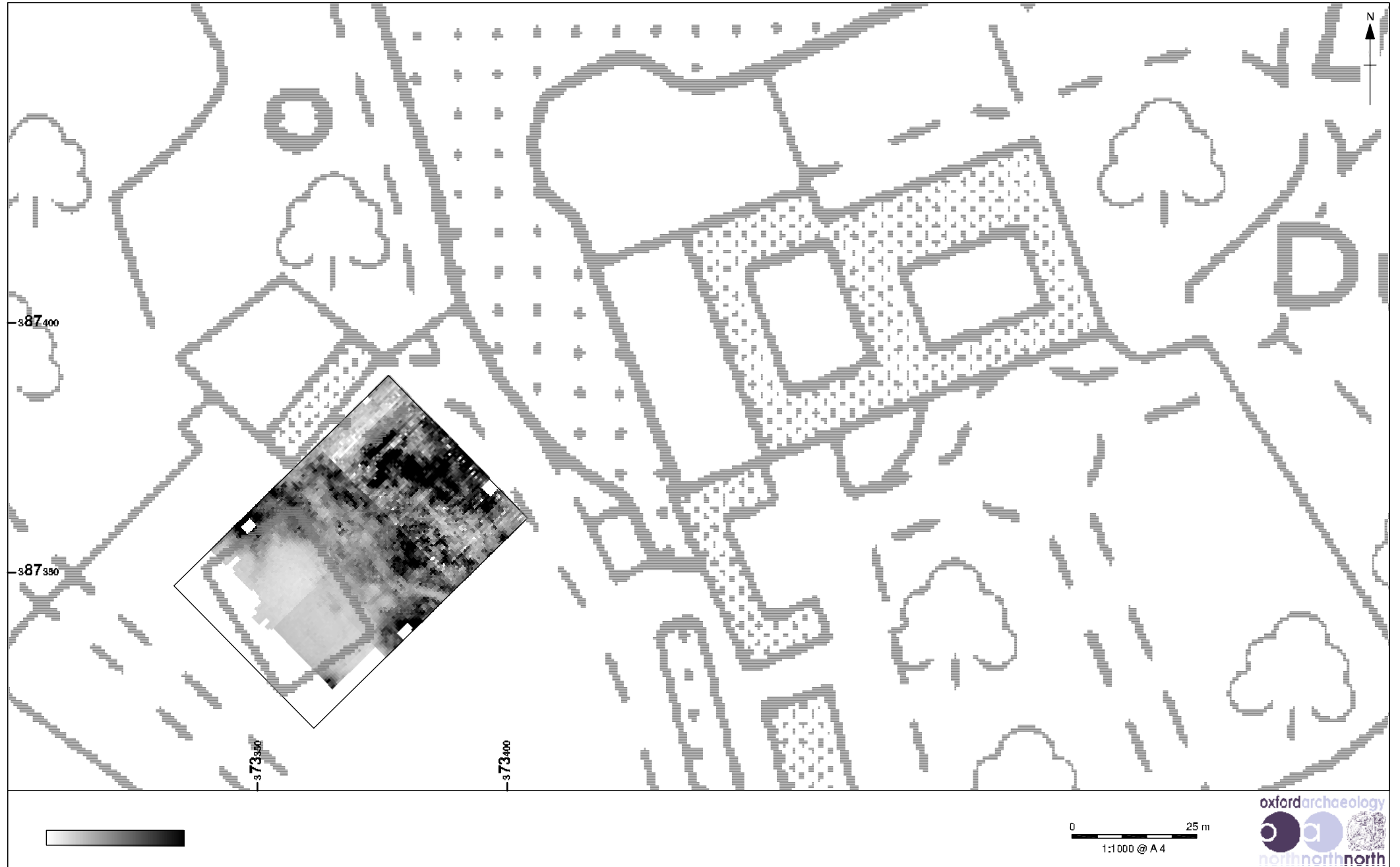


Figure 12: Plot of Raw Resistance data

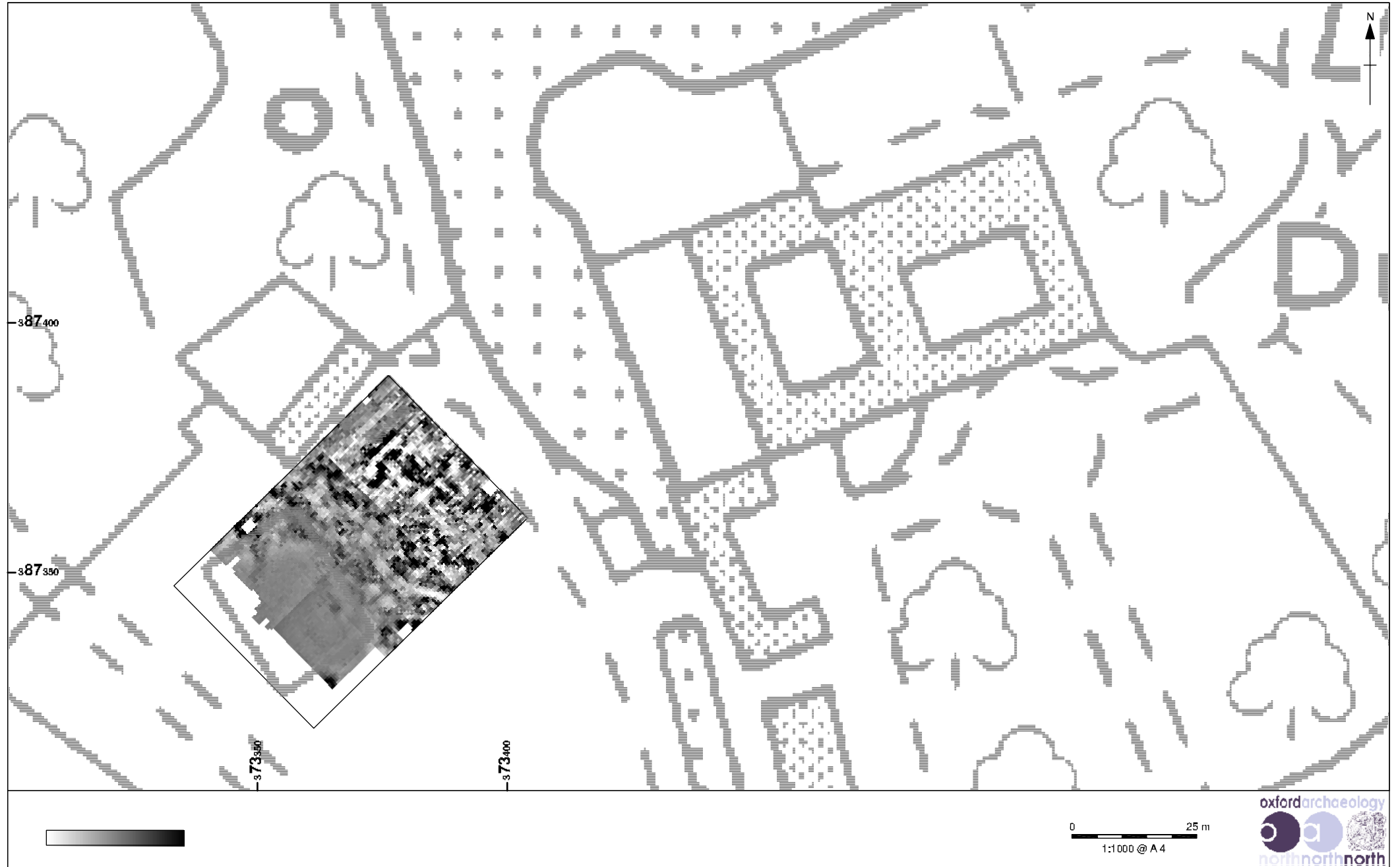


Figure13: Plot of Processed Resistance data

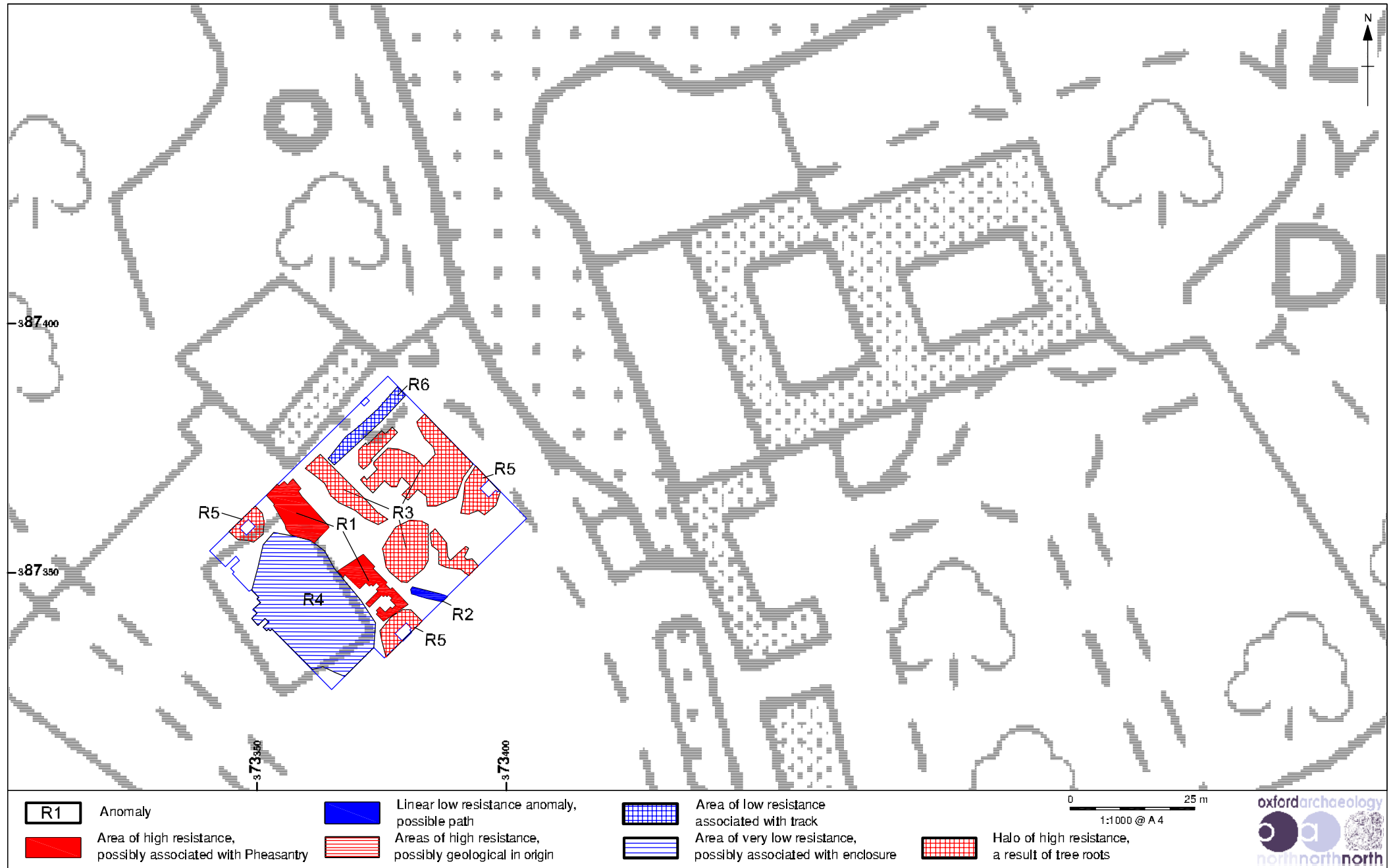


Figure 14: Interpretation of Resistance data



Plate 1: Dunham Massey from the south-east, 1696, by Adriaen Van Diest

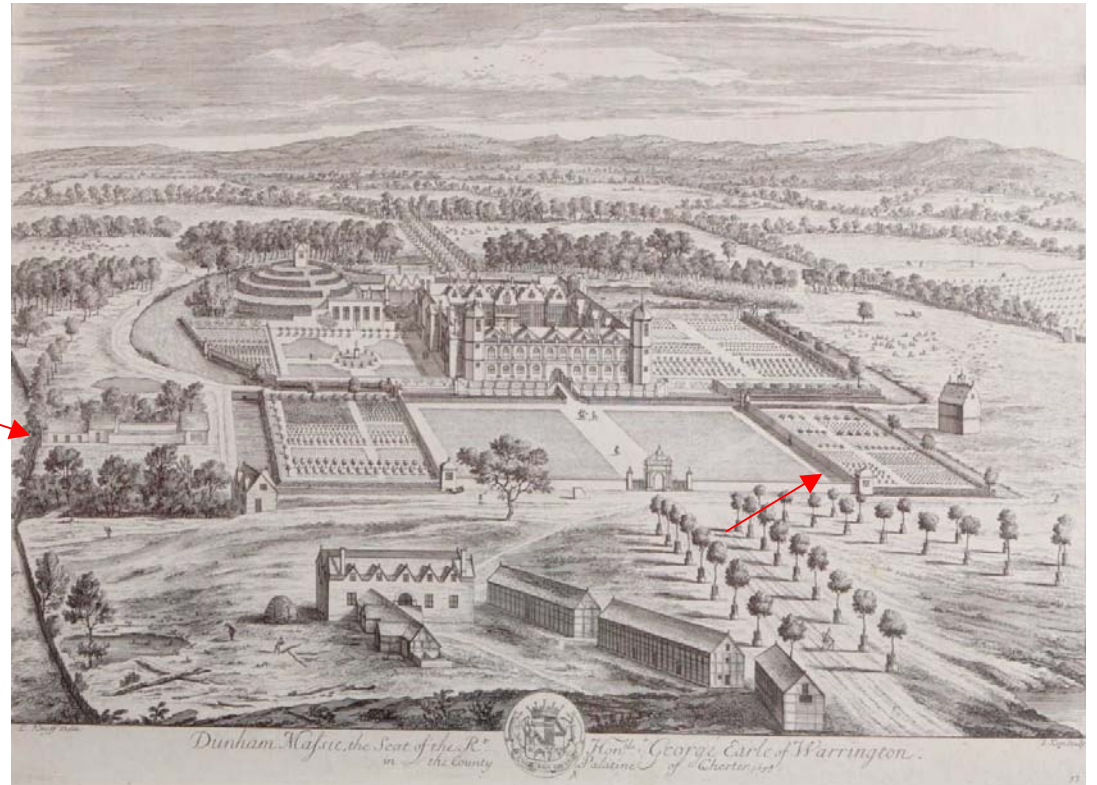


Plate 2: Kip and Kniff's engraving of Dunham Massey from the south-west, 1697

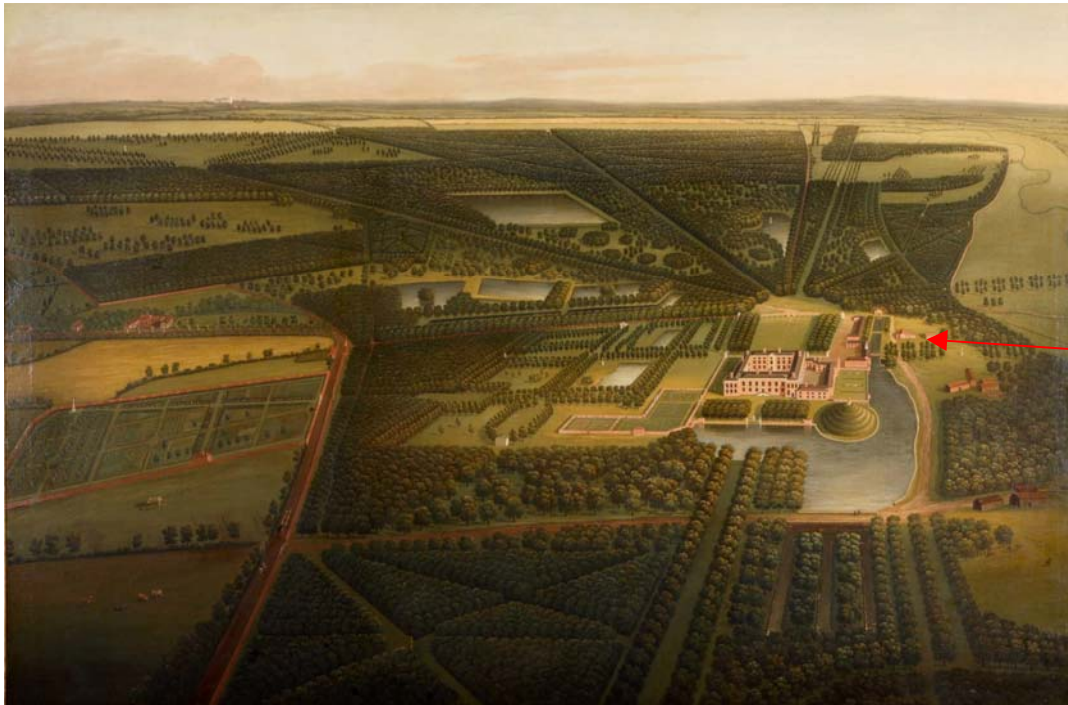


Plate 3: *Bird's-eye view of Dunham Massey from the north* by John Harris, c 1751



Plate 4: *Bird's-eye view of Dunham Massey from the south* by John Harris, c 1751



Plate 5: *Bird's-eye view of Dunham Massey from the south-west* by John Harris, c 1751

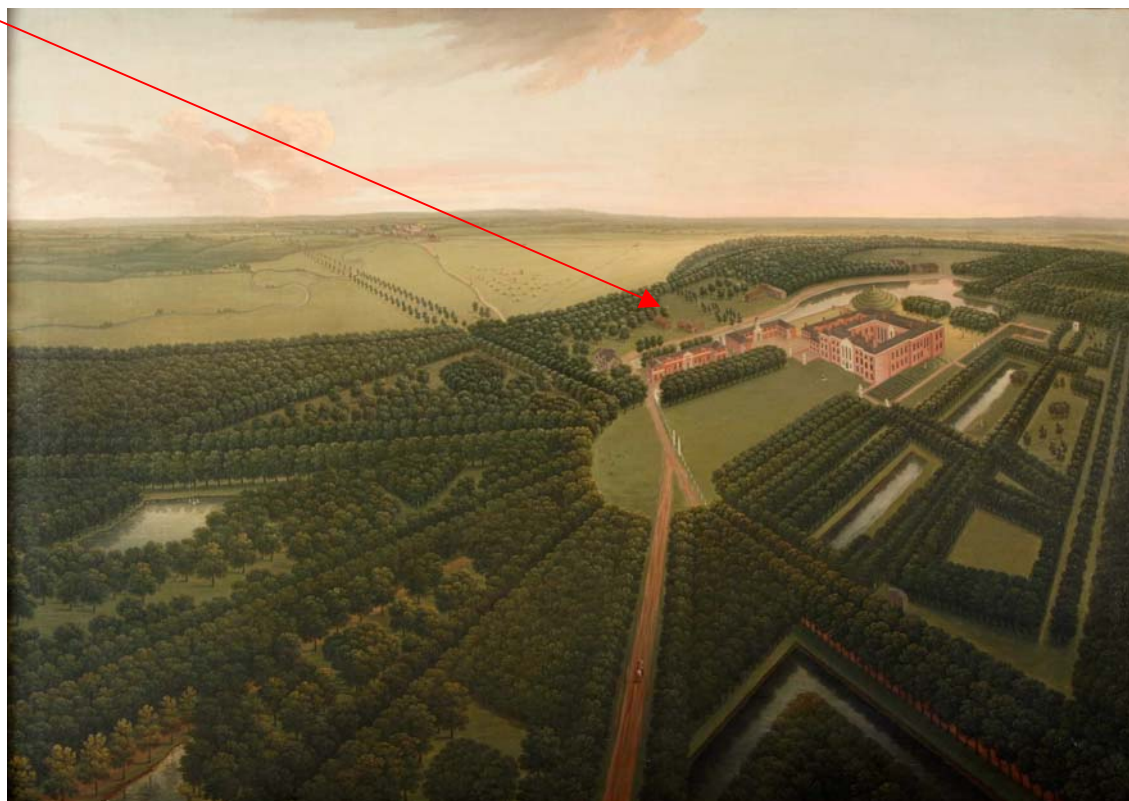


Plate 6: *Bird's-eye view of Dunham Massey from the south-east* by John Harris, c 1751



Plate 7: Extract from Bryant's map of 1829-31

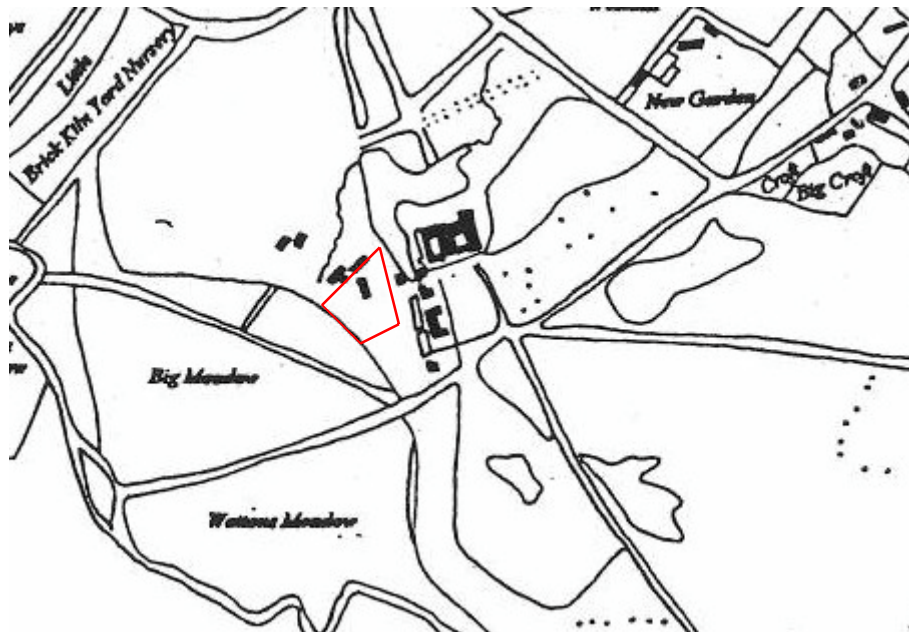


Plate 8: Extract from the 1839 Tithe Map of the Dunham township

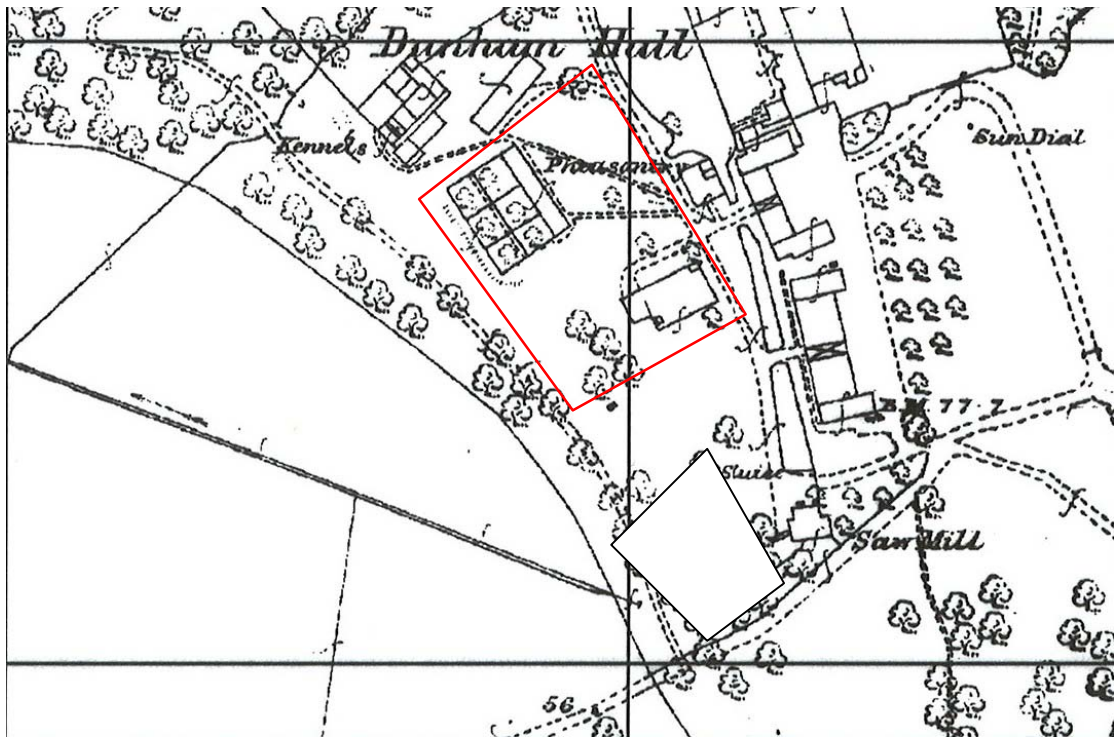


Plate 9: Extract from the 1st edition 1:2500 Ordnance Survey map of 1876

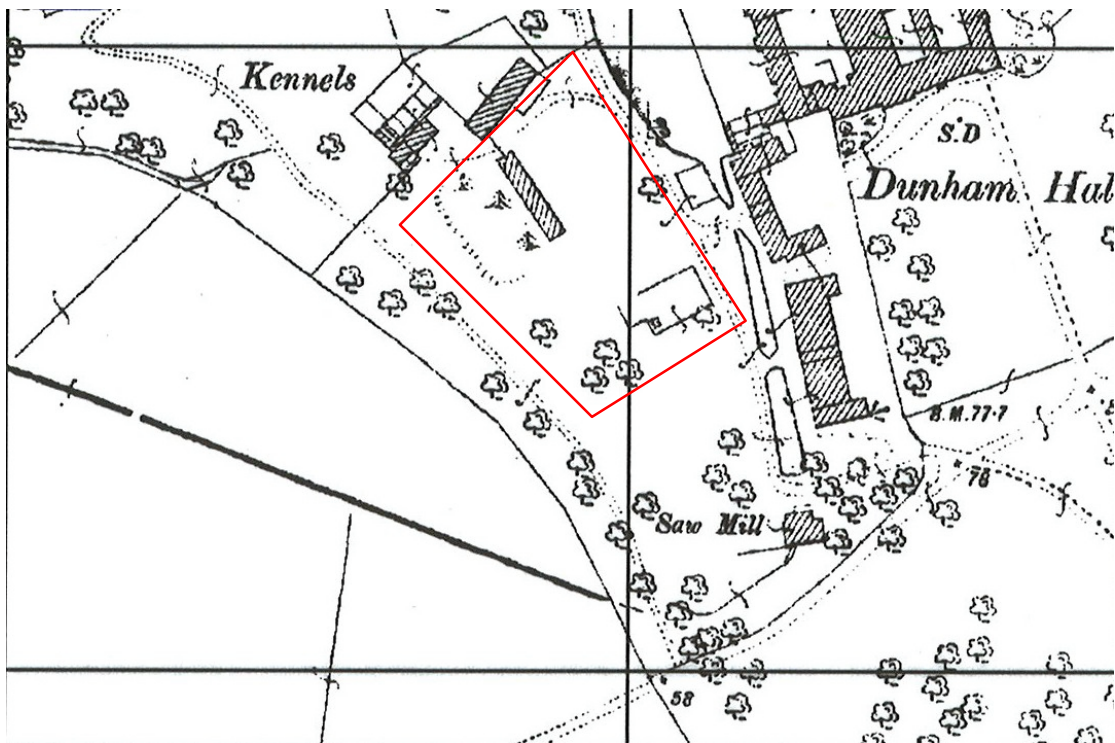


Plate 10: Extract from the 2nd edition 1898 1:2500 Ordnance Survey map

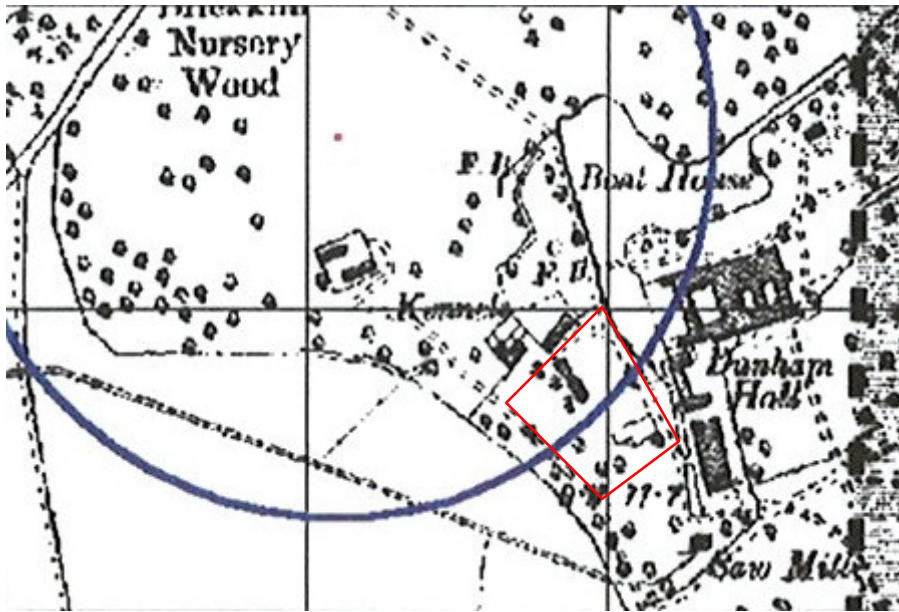


Plate 11: Extract from the 2nd edition 1:10,560 Ordnance Survey map of 1899

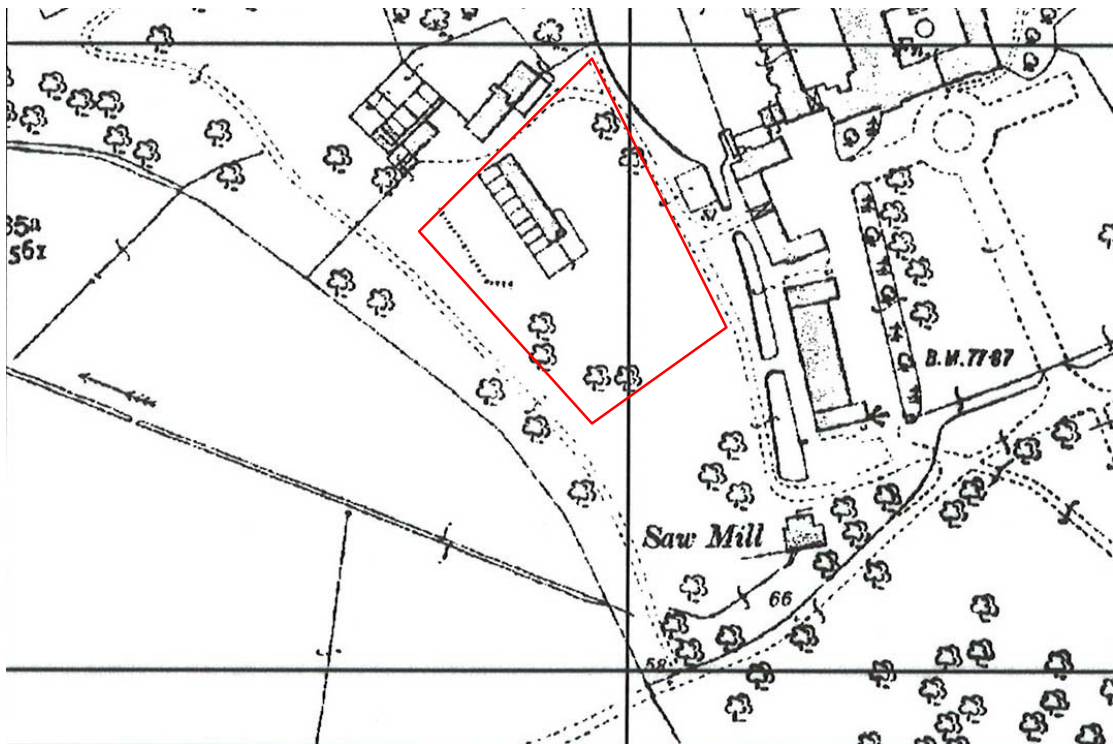


Plate 12: Extract from the 3rd edition 1:2500 Ordnance Survey map of 1910

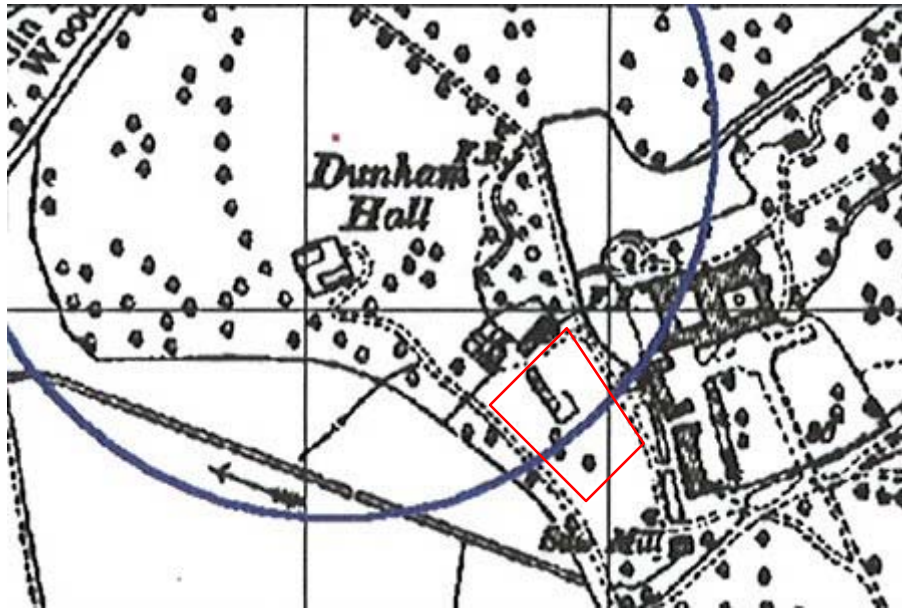


Plate 13: Extract from the 5th edition 1:10,560 Ordnance Survey map of 1954

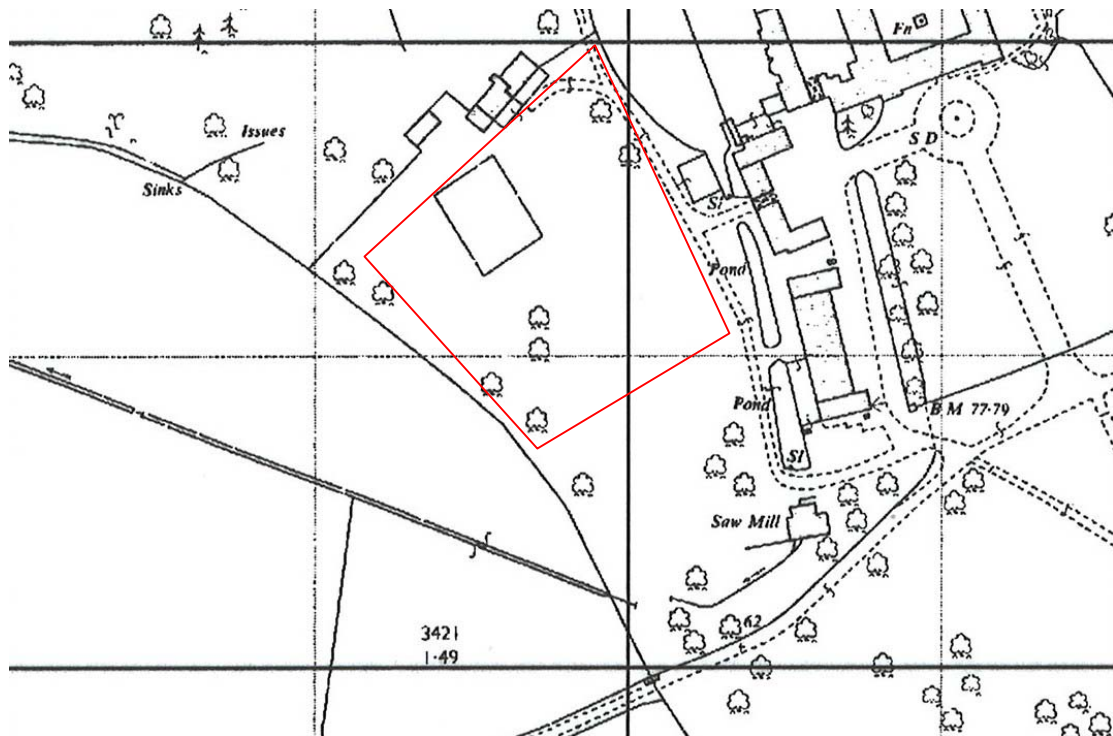


Plate 14: Extract from the 4th edition 1:2500 Ordnance Survey map of 1968



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Plate 16: Red brick floor **130** in Trench 1, looking south-west



Plate 17: North-east-facing section of Trench 1, showing the depth of early twentieth-century levelling deposits, looking south-west



Plate 18: Trench 2, looking east



Plate 19: South-east-facing section of Trench 2, showing the depth of early twentieth-century levelling deposits



Plate 20: Excavated sondage in Trench 3, looking north-west



Plate 21: Wall 133 in Trench 3, looking north-west



Plate 22: North-east-facing section of sondage in Trench 3, looking south-west



Plate 23: Trench 4, looking south-east



Plate 24: Trench 5, looking north-west



Plate 25: Internal corner of wall **153**, in Trench 5, looking north-east



Plate 26: Deposit **161** in Trench 5, after the excavation of brick layer **154**, looking north-east



Plate 27: Layer of fragmented bricks *153*, in Trench 5, looking north-east



Plate 28: West-facing Section 104 in Trench 5, looking east



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